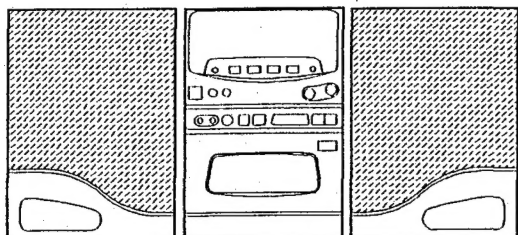


# aiwa



## LCX-50 LCX-AP1



COMPACT DISC STEREO SYSTEM

- BASIC TAPE MECHANISM: 2ZM1-R2N
- BASIC CD MECHANISM: KSM2101-BAM

- TYPE:U,LH,HE,HR,EZ,EEZ
- TYPE:Z(AP1)

SYSTEM	CD-CASSEIVER	SPEAKERS	REMOTE CONTROLLER
LCX-50	CX-SL50	SX-SL50	RC-L60E
LCX-AP1	CX-AP1	SX-AP1	RC-L60E

- For the portions of this Manual which do not carry the destination LCX-AP1 (Z), refer to the Service Manual of LCX-50 (EZ, EEZ).

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## SPECIFICATIONS

### MAIN UNIT

#### <FM section>

**Frequency range** 87.5 MHz to 108 MHz  
**Antenna** 75 ohms (unbalanced)

#### <AM/MW section>

**Frequency range** 531 (530) kHz to 1602 (1710) kHz  
 (9 kHz/10 kHz step)  
**Antenna** Loop antenna

#### <SW section>(HE model)

**Frequency range** SW1 : 3.2 MHz to 7.3 MHz  
 SW2 : 9.5 MHz to 21.85 MHz  
**Antenna** Wire antenna

#### <LW section>(EEZ, EZ, AP1Z models)

**Frequency range** 144 kHz to 290 kHz  
**Antenna** Loop antenna

#### <Amplifier section>

**Power output** EEZ, EZ, U, LH, AP1Z : 7 W + 7 W  
 (6 ohms, T.H.D. 1% 1 kHz)  
 U : FTC RULE  
 7 watts per channel Min.  
 RMS at 6 ohms, from 65 Hz to 15 kHz,  
 with no more than 1% Total Harmonic  
 Distortion  
 HE, HR : 10 W + 10 W  
 (6 ohms, T.H.D. 10% 1 kHz)

#### <Cassette deck section>

**Track format** 4 tracks, 2 channels stereo  
**Frequency response** CrO<sub>2</sub> tape : 50-16000 Hz  
 Normal tape : 50-15000 Hz  
**Signal-to-noise ratio** 50 dB  
**Head** Recording/playback head × 1  
 Erasure head × 1

### <CD player section>

**Disc** Compact disc  
**Scanning method** Non contact optical scanner  
 (semiconductor laser application)  
**Laser** Semiconductor laser ( $\lambda = 780 \text{ nm}$ )  
**No. of channels** 2 channels  
**D-A conversion** 1-bit linear

### SPEAKER SYSTEM

#### (These values are for one speaker)

**Cabinet type** 1 way, bass reflex (Magnetism sealed type)  
**Speaker** 100 mm (4 in.) cone type wide range  
**Impedance** 6 ohms  
**Output sound pressure level** 87 dB/W/m  
**Dimensions(W × H × D)** 150 × 230 × 210 mm  
 (6 × 9 1/8 × 8 3/8 in.)  
**Weight** 2.0 kg (4 lbs. 7oz.)

### GENERAL

**Power requirements** EEZ, EZ, AP1Z : AC 230 V, 50 Hz  
 K : AC 230-240 V, 50 Hz  
 U : AC 120 V, 60 Hz  
 HE, HR, LH : AC 120 V/220-240 V  
 50/60 Hz  
**Power consumption** EEZ, EZ, AP1Z : 60 W  
 U : 36 W  
 HE, HR, LH : 45 W  
**Dimensions(W × H × D)** Center unit :  
 140 × 235.5 × 283.6 mm  
 (5 5/8 × 9 3/8 × 11 1/4 in.)  
 System :  
 440 × 235.5 × 283.6 mm  
 (17 3/8 × 9 3/8 × 11 1/4 in.)  
**Weight** Center unit : 3.2 kg (7 lbs. 1 oz.)  
 System : 7.2 kg (15 lbs. 14 oz.)

● Design and specifications are subject to change without notice.

## PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

### WARNING!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

### VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylitävälle näkymättömälle lasersäteilylle.

### WARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvisning, kan användaren utsättas för osynlig laserstråling, som överskrider gränsen för laserklass 1.

### CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

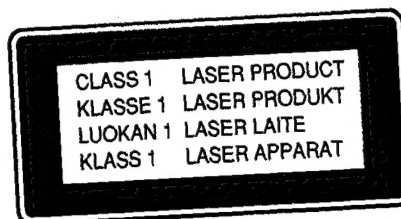
### ATTENTION

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

### ADVARSEL!

Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

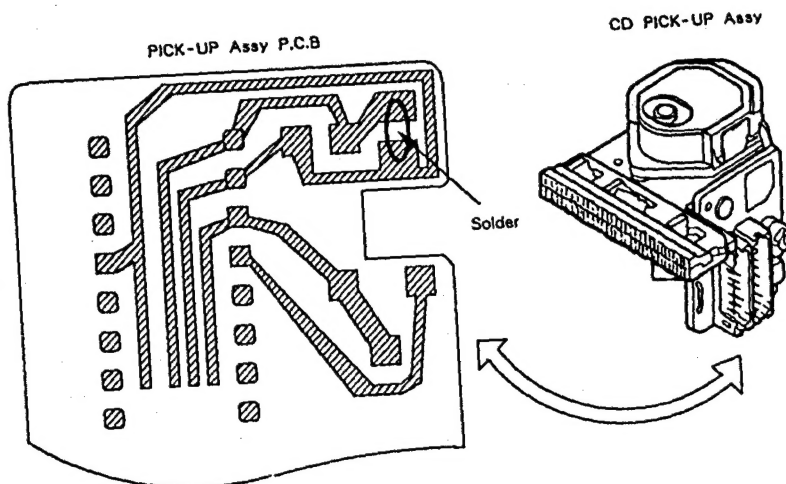
This Compact Disc player is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT label is located on the rear exterior.



## Precaution to replace Optical block (KSS - 210B)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure to ground body and workbench, and use care the clothes do not touch the diode.

- 1) After the connection, remove the solder shown in the right figure.





## ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は“REFERENCE NAME LIST”を参照してください。  
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

REF NO.	PART NO.	カンリ NO.	DESCRIPTION	REF NO.	PART NO.	カンリ NO.	DESCRIPTION
IC				MAIN C.B			
	87-017-745-019	IC, CXA1782B0		87-027-702-089	ZENER, HZ6C2L		
	87-020-454-010	IC, DM6851		87-027-417-089	ZENER, HZ11A1L		
	87-070-066-010	IC, UPD78043GF-101		87-001-783-089	DIODE 1N4002-T<HE, HR>		
	87-017-586-019	IC, CXD2518Q		87-027-332-089	ZENER, HZ6B1L<HE>		
	87-017-910-019	RGR UNIT, SPS-424-1		87-001-290-089	ZENER, HZS6B1L<EXCEPT HE>		
	87-017-486-089	IC, BA6397FP		87-027-393-089	ZENER, HZ4C2L		
	87-002-901-089	IC, BU4094 BF		87-027-606-089	ZENER, HZ7C2L		
	87-017-585-089	IC, NJM4580E		87-017-092-089	ZENER, HZS5C2<HE>		
	87-017-698-080	IC, M65843FP<HE, HR>					
	87-027-539-019	IC, LA3161					
	87-001-440-019	IC, BA15218N		BPF831	87-030-105-010	FLTR, BFM6A<EEZ, EZ, AP1Z>	
	87-017-915-089	IC, BU4094BCF<LH, HE, HR, U>		C101	87-010-196-089	C-CAP, S 0.1-25 F	
	87-002-247-019	IC, BU4052B		C102	87-010-196-089	C-CAP, S 0.1-25 F	
	87-017-673-019	IC, BA3837		C103	87-010-196-089	C-CAP, S 0.1-25 F	
	87-017-564-019	IC, LC7533		C104	87-010-196-089	C-CAP, S 0.1-25 F	
	87-017-909-019	IC, LA4620		C105	87-016-452-099	CAP, E 6800-25V	
	87-001-607-089	IC, NJM4558M		C106	87-010-260-089	CAP, E 47-25 SME	
	87-001-376-019	IC, LC7218		C107	87-010-174-089	C-CAP, S 470P-50 SL	
	87-017-714-019	IC, LA1836		C108	87-010-404-089	CAP, E 4.7-50 SME	
				C111	87-010-263-089	CAP, E 100-10 SME 5X11	
TRANSISTOR				C112	87-010-197-089	C-CAP, S 0.01-25 B	
	89-327-125-089	C-TR, 2SC2712GR		C113	87-010-370-089	CAP, E 330-6.3 SME	
	87-026-463-089	TR, 2SA933S (RS)		C114	87-010-403-089	CAP, E 3.3-50 SME	
	87-026-609-089	TR, KTA1266GR		C120	87-010-197-089	C-CAP, S 0.01-25 B	
	87-026-233-089	C-TR, DTA114TK		C121	87-010-260-089	CAP, E 47-25 SME	
	87-026-235-089	C-TR, DTC114EK		C122	87-010-384-089	CAP, E 100-25 SME	
	89-112-134-089	C-TR, 2SA1213Y		C125	87-010-196-089	C-CAP, S 0.1-25 F	
	89-327-124-089	C-TR, 2SC2712Y		C126	87-010-197-089	C-CAP, S 0.01-25 B<EEZ, EZ, AP1Z>	
	89-113-625-089	C-TR, 2SA 1362 GR(TAPG)		C127	87-010-197-089	C-CAP, S 0.01-25 B<EEZ, EZ, AP1Z>	
	89-109-521-089	TR, 2SA952K		C128	87-010-197-089	C-CAP, S 0.01-25 B<EEZ, EZ, AP1Z>	
	89-413-023-089	TR, 2SD1302S		C151	87-010-175-089	C-CAP, S 560P-50 SL	
	87-026-239-089	C-TR, DTC114TK		C152	87-010-175-089	C-CAP, S 560P-50 SL	
	87-026-297-089	C-TR, DTA144TK		C153	87-010-402-089	CAP, E 2.2-50 SME	
	87-026-295-089	C-TR, DTC144TK T147		C154	87-010-402-089	CAP, E 2.2-50 SME	
	89-333-266-089	C-TR, 2SC3326B		C155	87-010-374-089	CAP, E 47-10	
	89-213-702-019	TR, 2SB1370E		C156	87-010-374-089	CAP, E 47-10	
	89-112-965-089	TR, 2SA1296GR		C157	87-010-193-089	C-CAP, S 0.033-25 F	
	89-333-317-089	TR, 2SC3331T		C158	87-010-193-089	C-CAP, S 0.033-25 F	
	89-332-665-089	TR, 2SC3266GR		C161	87-010-178-089	C-CAP, S 1000P-50 B<EEZ, EZ, AP1Z>	
	87-026-496-089	FET, 2SJ103GR		C162	87-010-178-089	C-CAP, S 1000P-50 B<EEZ, EZ, AP1Z>	
	63-320-011-089	TR, 2SC2001K		C163	87-010-404-089	CAP, E 4.7-50 SME	
	89-111-625-089	C-TR, 2SA1162GR		C164	87-010-404-089	CAP, E 4.7-50 SME	
	87-026-223-089	C-TR, DTC143TK		C165	87-010-405-089	CAP, E 10-50 SME	
	89-332-654-089	C-TR, 2SC3265Y		C166	87-010-405-089	CAP, E 10-50 SME	
	87-026-226-089	C-TR, DTA143EK		C167	87-010-181-089	C-CAP, S 1800P-50 B	
	89-502-464-089	FET, 2SK246Y		C168	87-010-181-089	C-CAP, S 1800P-50 B	
	89-318-154-089	TR, 2SC1815Y		C171	87-010-382-089	CAP, E 22-25 SME	
	87-026-462-089	TR, 2SC1740S (RS)<HE>		C172	87-010-382-089	CAP, E 22-25 SME	
	87-026-214-089	TR, DTA114YS		C173	87-010-426-089	C-CAP, S 0.012-25 B	
	87-026-230-089	C-TR, DTA114YK<HE>		C174	87-010-426-089	C-CAP, S 0.012-25 B	
	89-327-143-089	C-TR, 2SC2714 (O)		C175	87-010-401-089	CAP, E 1-50 SME	
	89-503-025-089	C-FET, 2SK302 GR		C176	87-010-401-089	CAP, E 1-50 SME	
	89-502-115-089	C-FET, 2SK211GR<EEZ, EZ, AP1Z>		C177	87-010-198-089	C-CAP, S 0.022-25 B	
	89-505-434-589	C-FET, 2SK543 (4/5)		C178	87-010-198-089	C-CAP, S 0.022-25 B	
	89-318-155-089	TR, 2SC1815GR<HE>		C180	87-010-263-089	CAP, E 100-10 SME 5X11	
DIODE				C182	87-010-195-089	C-CAP, S 0.068-25 F	
	87-020-027-089	C-DIODE, 1SS184		C183	87-010-374-089	CAP, E 47-10	
	87-020-465-089	DIODE, 1SS133		C184	87-010-197-089	C-CAP, S 0.01-25 B	
	87-027-405-089	ZENER, RD2.2EB		C185	87-010-183-089	C-CAP, S 2700P-50 B	
	87-001-913-089	ZENER UTZJ5.6B		C186	87-010-183-089	C-CAP, S 2700P-50 B	
	87-020-123-089	DIODE DS446-AT (TA)		C187	87-010-183-089	C-CAP, S 2700P-50 B	
	87-020-339-089	C-DIODE, 1SS226		C189	87-010-405-089	CAP, E 10-50 SME	
	87-017-091-089	ZENER, HZS5C1<HE, HR>		C190	87-010-197-089	C-CAP, S 0.01-25 B	
	87-020-125-089	C-DIODE, 1SS181		C191	87-010-319-089	C-CAP, S 56P-50 CH	
	87-070-022-019	DIODE 1N5402		C192	87-010-194-089	C-CAP, S 0.047-25 F	
				C193	87-010-180-089	C-CAP, S 1500P-50 B	
				C194	87-010-180-089	C-CAP, S 1500P-50 B	
				C195	87-010-194-089	C-CAP, S 0.047-25 F<LH, HE, HR, U>	

REF NO.	PART NO.	カンリ NO.	DESCRIPTION	REF NO.	PART NO.	カンリ NO.	DESCRIPTION
C255	87-010-405-089	CAP, E 10-50 SME		C509	87-010-263-089	CAP, E 100-10 SME 5X11	
C256	87-010-405-089	CAP, E 10-50 SME		C510	87-010-263-089	CAP, E 100-10 SME 5X11	
C258	87-010-197-089	C-CAP, S 0.01-25 B		C515	87-010-263-089	CAP, E 100-10 SME 5X11<EXCEPT U>	
C265	87-010-185-089	C-CAP, S 3900P-50 B		C515	87-010-384-089	CAP, E 100-25 SME<U>	
C266	87-010-185-089	C-CAP, S 3900P-50 B		C516	87-010-387-089	CAP, E 470-25 SME	
C267	87-010-195-089	C-CAP, S 0.068-25 F		C517	87-010-382-089	CAP, E 22-25 SME	
C268	87-010-195-089	C-CAP, S 0.068-25 F		C518	87-010-405-089	CAP, E 10-50 SME	
C280	87-010-263-089	CAP, E 100-10 SME 5X11		C521	87-010-402-089	CAP, E 2.2-50 SME	
C281	87-010-318-089	C-CAP, S 47P-50 CH<EEZ, EZ, AP1Z>		C522	87-010-402-089	CAP, E 2.2-50 SME	
C282	87-010-318-089	C-CAP, S 47P-50 CH<EEZ, EZ, AP1Z>		C523	87-010-405-089	CAP, E 10-50 SME	
C283	87-010-197-089	C-CAP, S 0.01-25 B<EEZ, EZ, AP1Z>		C524	87-010-405-089	CAP, E 10-50 SME	
C284	87-010-405-089	CAP, E 10-50 SME		C525	87-010-404-089	CAP, E 4.7-50 SME	
C287	87-010-196-089	C-CAP, S 0.1-25 F		C526	87-010-404-089	CAP, E 4.7-50 SME	
C289	87-010-318-089	C-CAP, S 47P-50 CH<EEZ, EZ, AP1Z>		C529	87-010-405-089	CAP, E 10-50 SME	
C290	87-010-318-089	C-CAP, S 47P-50 CH<EEZ, EZ, AP1Z>		C530	87-010-405-089	CAP, E 10-50 SME	
C293	87-010-169-089	C-CAP, S 180P-50 SL		C531	87-010-405-089	CAP, E 10-50 SME	
C294	87-010-405-089	CAP, E 10-50 SME		C532	87-010-405-089	CAP, E 10-50 SME	
C295	87-010-405-089	CAP, E 10-50 SME		C535	87-010-317-089	C-CAP, S 39P-50 CH<LH, HE, U>	
C297	87-010-186-089	C-CAP, S 4700P-50 B		C536	87-010-317-089	C-CAP, S 39P-50 CH<LH, HE, U>	
C298	87-010-186-089	C-CAP, S 4700P-50 B		C537	87-012-365-089	C-CAP, S 0.027-25V BK<EEZ, EZ, AP1Z>	
C299	87-010-197-089	C-CAP, S 0.01-25 B<EEZ, EZ, AP1Z>		C538	87-012-365-089	C-CAP, S 0.027-25V BK<EEZ, EZ, AP1Z>	
C303	87-010-374-089	CAP, E 47-10		C539	87-010-197-089	C-CAP, S 0.01-25 B<EEZ, EZ, AP1Z>	
C304	87-010-545-089	CAP, E 0.22-50 SME		C541	87-010-313-089	C-CAP, S 18P-50 CH<EEZ, EZ, AP1Z>	
C305	87-010-196-089	C-CAP, S 0.1-25 F		C542	87-010-166-089	C-CAP, S 100P-50 SL<EEZ, EZ, AP1Z>	
C306	87-010-196-089	C-CAP, S 0.1-25 F		C545	87-010-166-089	C-CAP, S 100P-50 SL<HE>	
C307	87-010-194-089	C-CAP, S 0.047-25 F		C545	87-010-171-089	C-CAP, S 270P-50 SL<EEZ, EZ, AP1Z>	
C309	87-010-318-089	C-CAP, S 47P-50 CH<EEZ, EZ, AP1Z>		C546	87-010-166-089	C-CAP, S 100P-50 SL<HE>	
C310	87-010-318-089	C-CAP, S 47P-50 CH<EEZ, EZ, AP1Z>		C546	87-012-156-089	C-CAP, S 220P-50 CH<EEZ, EZ, AP1Z>	
C311	87-010-196-089	C-CAP, S 0.1-25 F		C549	87-010-197-089	C-CAP, S 0.01-25 B<EEZ, EZ, AP1Z>	
C312	87-010-196-089	C-CAP, S 0.1-25 F		C554	87-010-402-089	CAP, E 2.2-50 SME	
C321	87-010-805-089	C-CAP, S 1-16F<HE, HR>		C556	87-010-805-089	C-CAP, S 1-16F	
C322	87-010-805-089	C-CAP, S 1-16F<HE, HR>		C557	87-010-197-089	C-CAP, S 0.01-25 B<EEZ, EZ, AP1Z>	
C401	87-010-401-089	CAP, E 1-50 SME		C558	87-010-321-089	C-CAP, S 82P-50 CH<EEZ, EZ, AP1Z>	
C402	87-010-401-089	CAP, E 1-50 SME		C559	87-010-197-089	C-CAP, S 0.01-25 B<EEZ, EZ, AP1Z>	
C409	87-010-184-089	C-CAP, S 3300P-50 B		C701	87-010-381-089	CAP, E 330-16 SME	
C410	87-010-184-089	C-CAP, S 3300P-50 B		C702	87-010-404-089	CAP, E 4.7-50 SME	
C411	87-010-194-089	C-CAP, S 0.047-25 F		C703	87-010-197-089	C-CAP, S 0.01-25 B	
C412	87-010-194-089	C-CAP, S 0.047-25 F		C704	87-010-197-089	C-CAP, S 0.01-25 B	
C413	87-010-193-089	C-CAP, S 0.033-25 F		C711	87-010-263-089	CAP, E 100-10 SME 5X11	
C414	87-010-193-089	C-CAP, S 0.033-25 F		C712	87-010-196-089	C-CAP, S 0.1-25 F	
C415	87-010-178-089	C-CAP, S 1000P-50 B		C722	87-010-151-089	C-CAP, S 7P-50 CH	
C416	87-010-178-089	C-CAP, S 1000P-50 B		C723	87-010-178-089	C-CAP, S 1000P-50 B	
C417	87-010-193-089	C-CAP, S 0.033-25 F		C724	87-010-178-089	C-CAP, S 1000P-50 B	
C418	87-010-193-089	C-CAP, S 0.033-25 F		C725	87-010-178-089	C-CAP, S 1000P-50 B	
C419	87-010-186-089	C-CAP, S 4700P-50 B		C726	87-010-178-089	C-CAP, S 1000P-50 B	
C420	87-010-186-089	C-CAP, S 4700P-50 B		C727	87-010-194-089	C-CAP, S 0.047-25 F<EXCEPT HE>	
C423	87-010-194-089	C-CAP, S 0.047-25 F		C727	87-010-196-089	C-CAP, S 0.1-25 F<HE>	
C424	87-010-194-089	C-CAP, S 0.047-25 F		C728	87-010-248-089	CAP, E 220-10 SME	
C425	87-010-544-089	CAP, E 0.1-50<EXCEPT HR>		C732	87-010-197-089	C-CAP, S 0.01-25 B	
C425	87-010-401-089	CAP, E 1-50 SME<HR>		C750	87-010-197-089	C-CAP, S 0.01-25 B<HE>	
C426	87-010-544-089	CAP, E 0.1-50<EXCEPT HR>		C771	87-010-405-089	CAP, E 10-50 SME	
C426	87-010-401-089	CAP, E 1-50 SME<HR>		C772	87-010-194-089	C-CAP, S 0.047-25 F	
C427	87-015-241-089	CAP, E 1-50 LL		C773	87-010-196-089	C-CAP, S 0.1-25 F	
C428	87-015-241-089	CAP, E 1-50 LL		C774	87-010-263-089	CAP, E 100-10 SME 5X11	

REF NO.	PART NO.	カンリ NO.	DESCRIPTION
C794	87-010-260-089		CAP, E 47-25 SME
C795	87-010-194-089		C-CAP, S 0.047-25 F
C796	87-010-403-089		CAP, E 3.3-50 SME
C797	87-010-405-089		CAP, E 10-50 SME<EXCEPT HE>
C798	87-010-196-089		C-CAP, S 0.1-25 F <LH, EEZ, EZ, AP1Z, U>
C802	87-010-154-089		C-CAP, S 10P-50 CH<LH, HE, HR, U>
C802	87-010-311-089		C-CAP, S 12P-50 CH<EEZ, EZ, AP1Z>
C804	87-010-151-089		C-CAP, S 7P-50 CH<LH, HE, HR, U>
C805	87-010-147-089		C-CAP, S 3P-50 CH<EEZ, EZ, AP1Z>
C805	87-010-150-089		C-CAP, S 6P-50 CH<LH, HE, HR, U>
C806	87-010-145-089		C-CAP, S 1P-50 CH<HE>
C806	87-010-148-089		C-CAP, S 4P-50 CH<EEZ, EZ, AP1Z>
C807	87-010-154-089		C-CAP, S 10P-50 CH<LH, HE, HR, U>
C807	87-010-313-089		C-CAP, S 18P-50 CH<EEZ, EZ, AP1Z>
C808	87-010-166-089		C-CAP, S 100P-50 SL
C809	87-010-197-089		C-CAP, S 0.01-25 B
C810	87-010-197-089		C-CAP, S 0.01-25 B
C811	87-010-149-089		C-CAP, S 5P-50 CH
C812	87-010-312-089		C-CAP, S 15P-50 CH<EXCEPT HE>
C812	87-010-313-089		C-CAP, S 18P-50 CH<HE>
C813	87-010-197-089		C-CAP, S 0.01-25 B<HE, EEZ, EZ, AP1Z>
C814	87-010-197-089		C-CAP, S 0.01-25 B
C816	87-010-197-089		C-CAP, S 0.01-25 B<LH, HR, U>
C817	87-010-197-089		C-CAP, S 0.01-25 B
C818	87-010-197-089		C-CAP, S 0.01-25 B
C819	87-010-197-089		C-CAP, S 0.01-25 B
C820	87-010-260-089		CAP, E 47-25 SME
C821	87-010-197-089		C-CAP, S 0.01-25 B
C822	87-010-197-089		C-CAP, S 0.01-25 B<LH, HR, U>
C822	87-015-819-089		CHIP CAP 0.01<HE>
C823	87-010-197-089		C-CAP, S 0.01-25 B
C827	87-010-145-089		C-CAP, S 1P-50 CH<EXCEPT HE>
C830	87-010-197-089		C-CAP, S 0.01-25 B
C831	87-010-154-089		C-CAP, S 10P-50 CH
C832	87-010-314-089		C-CAP, S 22P-50 CH<EEZ, EZ, AP1Z>
C834	87-010-154-089		C-CAP, S 10P-50 CH<EEZ, EZ, AP1Z>
C835	87-010-154-089		C-CAP, S 10P-50 CH
C836	87-010-312-089		C-CAP, S 15P-50 CH
C837	87-010-312-089		C-CAP, S 15P-50 CH
C840	87-010-197-089		C-CAP, S 0.01-25 B
C843	87-010-146-089		C-CAP, S 2P-50 CH
C851	87-010-197-089		C-CAP, S 0.01-25 B<EXCEPT HE>
C941	87-010-197-089		C-CAP, S 0.01-25 B<EEZ, EZ, AP1Z>
C942	87-010-311-089		C-CAP, S 12P-50 CH<EEZ, EZ, AP1Z>
C944	87-010-196-089		C-CAP, S 0.1-25 F<HE>
C944	87-010-154-089		C-CAP, S 10P-50 CH<EEZ, EZ, AP1Z>
C944	87-010-311-089		C-CAP, S 12P-50 CH<LH, HR, U>
C945	87-014-050-089		CAP, PP 510P-100 J<EEZ, EZ, AP1Z>
C946	87-010-401-089		CAP, E 1-50 SME
C947	87-010-197-089		C-CAP, S 0.01-25 B<EXCEPT HE>
C948	87-010-401-089		CAP, E 1-50 SME<EXCEPT HE>
C949	87-010-196-089		C-CAP, S 0.1-25 F<EEZ, EZ, AP1Z>
C950	87-010-166-089		C-CAP, S 100P-50 SL<EXCEPT HE>
C951	87-010-197-089		C-CAP, S 0.01-25 B
C952	87-010-197-089		C-CAP, S 0.01-25 B
C953	87-010-197-089		C-CAP, S 0.01-25 B
C954	87-010-263-089		CAP, E 100-10 SME 5X11<HE>
C955	87-010-315-089		C-CAP, S 27P-50 CH<HE>
C956	87-010-197-089		C-CAP, S 0.01-25 B
C957	87-010-197-089		C-CAP, S 0.01-25 B
C958	87-010-197-089		C-CAP, S 0.01-25 B
C959	87-010-544-089		CAP, E 0.1-50<HE>
C961	87-014-051-089		CAP, PP 560P-100 J<HE>
C962	87-014-073-089		CAP, PP 4700P-100 J<HE>
C963	87-010-312-089		C-CAP, S 15P-50 CH<HE>
C964	87-012-150-089		C-CAP, S 20P-50 CH<HE>
C965	87-010-186-089		C-CAP, S 4700P-50 B<HE>
C966	87-010-263-089		CAP, E 100-10 SME 5X11<HE>
C970	87-010-197-089		C-CAP, S 0.01-25 B
C971	87-010-197-089		C-CAP, S 0.01-25 B
C972	87-010-197-089		C-CAP, S 0.01-25 B
C973	87-010-150-089		C-CAP, S 6P-50 CH<HE>

REF NO.	PART NO.	カンリ NO.	DESCRIPTION
C976	87-010-400-089		CAP, E 0.47-50 SME<HE>
C977	87-010-405-089		CAP, E 10-50 SME<HE>
C980	87-010-197-089		C-CAP, S 0.01-25 B
C981	87-018-134-089		CAP, TC-U 0.01-16 Y
C983	87-015-691-089		CAP, E 0.1-50 7L<EXCEPT HE>
C984	87-010-196-089		C-CAP, S 0.1-25 F<EXCEPT HE>
C987	87-010-197-089		C-CAP, S 0.01-25 B<LH, HR, U>
C988	87-015-831-089		C-CAP, 0.1-25 F
C989	87-018-134-089		CAP, TC-U 0.01-16 Y
C990	87-010-197-089		C-CAP, S 0.01-25 B<EXCEPT HE>
C991	87-018-131-080		CAP, TC-U 1000P-50 B<EEZ, EZ, AP1Z>
C992	87-010-196-089		C-CAP, S 0.1-25 F<HE>
C993	87-018-209-089		CAP, TC-U 0.1-50 F<HE>
C995	87-010-197-089		C-CAP, S 0.01-25 B<HE>
C996	87-010-197-089		C-CAP, S 0.01-25 B<HE>
C997	87-010-184-089		C-CAP, S 3300P-50 B<EXCEPT HE>
C997	87-018-209-089		CAP, TC-U 0.1-50 F<HE>
C998	87-010-184-089		C-CAP, S 3300P-50 B
C999	87-010-318-089		C-CAP, S 47P-50 CH<EEZ, EZ, AP1Z>
CF801	87-008-423-019		CF, SFE10.7MS3GH-A<EEZ, EZ, AP1Z>
CF801	87-008-261-019		FLTR, SFE10.7MA5-A<LH, HE, HR, U>
CF802	82-785-747-019		CF, MS2 GHY, R<EEZ, EZ, AP1Z>
CF802	87-008-261-019		FLTR, SFE10.7MA5-A<LH, HE, HR, U>
D801	87-002-730-089		VARI-CAP SVC203SPA
D802	87-002-730-089		VARI-CAP SVC203SPA
D803	87-002-730-089		VARI-CAP SVC203SPA
D804	87-002-730-089		VARI-CAP SVC203SPA<EEZ, EZ, AP1Z>
D958	87-017-568-089		VARI-CAP, SVC 342 M/L<HE>
FC1	84-CE5-643-019		FLAT CABLE, 6P AFCD
FC2	84-CE5-632-019		FLAT CABLE, 2P PT<EXCEPT U>
FC2	84-CE5-644-019		FLAT CABLE, 3P PT U<U>
J101	87-099-608-019		JACK, DC HEC3800
J201	87-099-625-019		JACK PIN 4P, RVS (KM)
J501	87-033-226-019		TERMINAL, SP 4P R<U>
J501	87-033-227-019		TERMINAL, SP 4P R(Z)<EEZ, EZ, AP1Z>
J501	87-033-233-019		TERMINAL, SPKR<LH, HE, HR>
J502	87-009-549-019		JACK, DIA 3.5
J503	87-009-216-019		JACK, DIA 3.5 STS
J801	87-033-235-019		TERMINAL, ANT (H)<LH, HE, HR, U>
J801	87-033-230-019		TERMINAL, ANT AJ-2016<EEZ, EZ, AP1Z>
J950	81-754-629-019		CONNECTOR XH M 2P (UL)<HE>
L151	87-007-300-019		COIL, OSC BIAS 85K
L501	87-005-366-019		COIL, 1UH<EEZ, EZ, AP1Z>
L502	87-005-366-019		COIL, 1UH<EEZ, EZ, AP1Z>
L503	87-005-366-019		COIL, 1UH<EEZ, EZ, AP1Z>
L504	87-005-366-019		COIL, 1UH<EEZ, EZ, AP1Z>
L505	87-005-366-019		COIL, 1UH<EEZ, EZ, AP1Z>
L711	87-003-098-089		COIL, 2.2UH<HE>
L741	87-006-259-019		COIL, FM DET
L742	81-631-612-019		CFMT 450A<HE>
L742	82-NT1-659-019		FLTR, CFAZ-450 2NT<EXCEPT HE>
L770	87-003-102-089		COIL, 10UH<EXCEPT HE>
L771	87-003-098-089		COIL, 2.2UH<LH, HE, HR, U>
L801	87-006-263-019		COIL, ANTFM 3/4TS, L4
L802	87-006-265-019		COIL, ANT FM2-3/4 TS
L803	87-006-262-019		COIL, RF FM3-1/2T, L4
L804	87-006-264-019		COIL, RF FM3-1/2TS, L4
L805	87-003-098-089		COIL, 2.2UH
L806	87-006-257-019		COIL, FMIFT
L807	87-006-258-019		COIL, FM OSC
L831	87-006-264-019		COIL, RF FM3-1/2TS, L4<EEZ, EZ, AP1Z>
L832	87-003-098-089		COIL, 2.2UH
L941	87-006-261-019		COIL, LW ANT<EEZ, EZ, AP1Z>
L942	87-006-260-019		COIL, LW OSC<EEZ, EZ, AP1Z>
L951	87-006-236-019		COIL, ANT MW(SG)<HE>
L952	87-006-255-019		COIL, ANT SW1(SG7)<HE>
L953	87-006-256-019		COIL, ANT SW2(SG7)<HE>
L954	87-005-372-089		COIL, S 1 MH TAPG<HE>
L955	87-005-372-089		COIL, S 1 MH TAPG<HE>
L956	87-007-326-019		COIL, OSC MW(SG)<HE>
L957	87-007-327-019		COIL, OSC SW1(SG)<HE>
L958	87-007-332-019		COIL, OSC SW2(SG7)<HE>
L981	82-NT3-632-019		AM PACK 1, SAG<LH, HR>

REF NO.	PART NO.	カンリ NO.	DESCRIPTION
L981	81-MX4-620-019		AM PACK 3,S<U>
L981	87-042-147-019		AM PACK 4<EEZ, EZ, AP1Z>
R505	87-025-329-089		RES, NF 2.2-1/4W
R506	87-025-329-089		RES, NF 2.2-1/4W
R507	87-025-329-089		RES, NF 2.2-1/4W
R508	87-025-329-089		RES, NF 2.2-1/4W
SFR722	87-024-171-089		SFR 4.7K DIA6 V<LH, HR, U>
SFR722	87-024-651-089		SFR 6.8K DIA6 V<HE, EEZ, EZ, AP1Z>
SFR771	87-024-173-089		SFR 22K DIA6 V
TC701	87-011-221-089		CAP TRIMER 30P VCT51
TC801	87-011-219-089		CAP TRIMMER 10P VCT
TC802	87-011-219-089		CAP TRIMMER 10P VCT
TC803	87-011-219-089		CAP TRIMMER 10P VCT<EEZ, EZ, AP1Z>
TC941	87-011-221-089		CAP TRIMMER 30P VCT<EEZ, EZ, AP1Z>
TC951	87-011-220-089		CAP TRIMMER 20P VCT<HE>
TC952	87-011-221-089		CAP TRIMER 30P VCT51<HE>
TC953	87-011-221-089		CAP TRIMER 30P VCT51<HE>
X703	84-508-618-019		VIB, CER CSB 456 F/5
X704	87-030-354-019		VIB, CF BFU450C<HE>
X721	87-030-372-019		VIB, XTAL 7.2MHZ
CD C, B			
C1	87-010-178-089		C-CAP, S 1000P-50 B
C2	87-010-263-089		CAP, E 100-10 SME 5X11
C3	87-010-265-089		CAP, E 33-16 SME
C6	87-010-198-089		C-CAP, S 0.022-25 B
C7	87-010-196-089		C-CAP, S 0.1-25 F
C10	87-010-182-089		C-CAP, S 2200P-50 B
C11	87-010-196-089		C-CAP, S 0.1-25 F
C14	87-010-404-089		CAP, E 4.7-50 SME
C16	87-010-197-089		C-CAP, S 0.01-25 B
C17	87-010-263-089		CAP, E 100-10 SME 5X11
C18	87-010-197-089		C-CAP, S 0.01-25 B
C19	87-010-403-089		CAP, E 3.3-50 SME
C20	87-010-382-089		CAP, E 22-25 SME
C21	87-010-263-089		CAP, E 100-10 SME 5X11
C22	87-010-197-089		C-CAP, S 0.01-25 B
C23	87-010-193-089		C-CAP, S 0.033-25 F
C24	87-010-197-089		C-CAP, S 0.01-25 B
C25	87-010-193-089		C-CAP, S 0.033-25 F
C28	87-010-196-089		C-CAP, S 0.1-25 F
C29	87-010-263-089		CAP, E 100-10 SME 5X11
C30	87-010-194-089		C-CAP, S 0.047-25 F
C31	87-010-180-089		C-CAP, S 1500P-50 B
C32	87-010-263-089		CAP, E 100-10 SME 5X11
C33	87-010-197-089		C-CAP, S 0.01-25 B
C34	87-012-156-089		C-CAP, S 220P-50 CH
C35	87-010-197-089		C-CAP, S 0.01-25 B
C36	87-010-400-089		CAP, E 0.47-50 SME
C37	87-010-197-089		C-CAP, S 0.01-25 B
C38	87-010-312-089		C-CAP, S 15P-50 CH
C39	87-010-312-089		C-CAP, S 15P-50 CH
C41	87-012-140-089		C-CAP, S 470P-50 CH
C43	87-012-140-089		C-CAP, S 470P-50 CH
C44	87-010-318-089		C-CAP, S 47P-50 CH
C45	87-010-318-089		C-CAP, S 47P-50 CH
C46	87-010-154-089		C-CAP, S 10P-50 CH
C51	87-010-154-089		C-CAP, S 10P-50 CH
C52	87-010-146-089		C-CAP, S 2P-50 CH
C57	87-010-404-089		CAP, E 4.7-50 SME
C58	87-010-196-089		C-CAP, S 0.1-25 F
C59	87-010-221-089		CAP, E 470-10
C60	87-010-197-089		C-CAP, S 0.01-25 B
C61	87-010-196-089		C-CAP, S 0.1-25 F
C62	87-010-180-089		C-CAP, S 1500P-50 B
C63	87-010-805-089		C-CAP, S 1-16F
C64	87-010-196-089		C-CAP, S 0.1-25 F
C65	87-010-197-089		C-CAP, S 0.01-25 B
C66	87-010-221-089		CAP, E 470-10
C67	87-010-196-089		C-CAP, S 0.1-25 F
C71	87-010-197-089		C-CAP, S 0.01-25 B
C72	87-010-221-089		CAP, E 470-10



REF NO.	PART NO.	カンリ NO.	DESCRIPTION
LED11	87-017-928-089		LED, L-1154PGC
R92	87-025-313-089		RES 1/4W 4.7 NFR TAPG
R93	87-025-313-089		RES 1/4W 4.7 NFR TAPG
SW1	87-036-170-089		SW, TACT
SW2	87-036-170-089		SW, TACT
SW3	87-036-170-089		SW, TACT
SW4	87-036-170-089		SW, TACT
SW5	87-036-170-089		SW, TACT
SW6	87-036-170-089		SW, TACT
SW7	87-036-170-089		SW, TACT
SW8	87-036-170-089		SW, TACT
SW9	87-036-170-089		SW, TACT
SW10	87-036-170-089		SW, TACT
SW11	87-036-170-089		SW, TACT
SW12	87-036-170-089		SW, TACT
SW13	87-036-170-089		SW, TACT
SW14	87-036-170-089		SW, TACT
SW15	87-036-170-089		SW, TACT
SW16	87-036-170-089		SW, TACT
SW17	87-036-170-089		SW, TACT
X1	87-030-233-089		VIB, CER KBR 4.19MKS

#### MIC C.B

C1001	87-010-197-089		C-CAP, S 0.01-25 B
C1002	87-010-178-089		C-CAP, S 1000P-50 B
C1003	87-010-544-049		CAP, E 0.1-50 SME
C1004	87-010-071-049		CAP, E 1-50 5L
C1005	87-010-178-089		C-CAP, S 1000P-50 B
C1006	87-010-545-049		CAP, E 0.22-50 SME<HE, HR>
C1006	87-010-401-049		CAP, E 1-50 SME<LH, EEZ, EZ, AP1Z, U>
C1007	87-010-404-089		CAP, E 4.7-50 SME
C1008	87-010-544-049		CAP, E 0.1-50 SME<HE, HR>
C1009	87-010-182-089		C-CAP, S 2200P-50 B<HE, HR>
C1010	87-010-545-049		CAP, E 0.22-50 SME<HE, HR>
C1020	87-010-198-089		C-CAP, S 0.022-25 B<HE, HR>
C1021	87-010-186-089		C-CAP, S 4700P-50 B<HE, HR>
C1022	87-010-401-049		CAP, E 1-50 SME<HE, HR>
C1023	87-010-196-089		C-CAP, S 0.1-25 F<HE, HR>
C1024	87-010-408-049		CAP, E 47-50 SME<HE, HR>
C1027	87-010-195-089		C-CAP, S 0.068-25 F<HE, HR>
C1028	87-010-182-089		C-CAP, S 2200P-50 B<HE, HR>
C1029	87-010-198-089		C-CAP, S 0.022-25 B<HE, HR>
C1030	87-010-263-049		CAP, E 100-10<HE, HR>

REF NO.	PART NO.	カンリ NO.	DESCRIPTION
C1031	87-010-176-089		C-CAP, S 680P-50 SL<HR>
C1031	87-010-177-089		C-CAP, S 820P-50 SL<HE>
C1032	87-010-176-089		C-CAP, S 680P-50 SL<HR>
C1032	87-010-177-089		C-CAP, S 820P-50 SL<HE>
C1033	87-010-196-089		C-CAP, S 0.1-25 F<HE, HR>
C1034	87-010-263-049		CAP, E 100-10<HE, HR>
C1035	87-010-545-049		CAP, E 0.22-50 SME<HE, HR>
C1051	87-010-176-089		C-CAP, S 680P-50 SL<HE, HR>
C1052	87-010-180-089		C-CAP, S 1500P-50 B<HE, HR>
C1100	87-010-426-089		C-CAP, S 0.012-25 B<LH, U>
JKM5	87-009-216-019		JACK, DIA 3.5 STS
L1000	87-005-454-089		COIL, 680UH FLR50 K<HE, HR>
RVR12	87-024-618-019		VR, 10KA RK09K111

#### PT C.B

△	87-033-213-089		CLAMP FUSE SMK
△	82-304-743-019		TERMINAL, 1P
△ F101	87-035-411-019		FUSE T1A 250V UL<LH, U>
△ F101	87-035-502-019		FUSE, 1A 250V F<HE, HR>
△ F101	87-035-501-019		FUSE, 400MA 250V F<EEZ, EZ, AP1Z>
△ PT101	84-CE5-623-019		PT, E<EEZ, EZ, AP1Z>
△ PT101	84-CE5-625-019		PT, H<LH>
△ PT101	84-CE5-622-019		PT, U<U>
△ PT101	84-CE5-626-019		PT, HE<HE, HR>
△ SW101	87-031-780-019		SW, SLIDE 1-1-2<LH, HE, HR>

#### TAPE C.B

SFR1	87-024-581-010		SFR, 3.3K DIA 6H KOA
SOL2	82-ZM1-618-310		SOL ASSY, 27
SW2	87-036-110-010		SW, PUSH SPPB 62
SW3	87-036-110-010		SW, PUSH SPPB 62
SW4	87-036-110-010		SW, PUSH SPPB 62
SW5	87-036-110-010		SW, PUSH SPPB 62
SW6	87-036-110-010		SW, PUSH SPPB 62

#### RELAY C.B

CON151	84-CE5-631-019		CONN ASSY, 6P RPEH
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#### MOTOR-1 C.B

M20	9X-262-513-210		SLED MOTOR ASSY
M21	9X-262-513-210		SLED MOTOR ASSY
PIN501	91-564-721-110		CONNECTOR 5P
SW1	91-572-085-110		LEAF SW

### ○チップ抵抗部品コード/CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち

Chip Resistor Part Coding



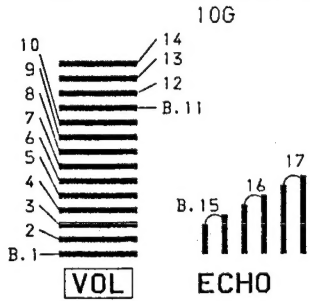
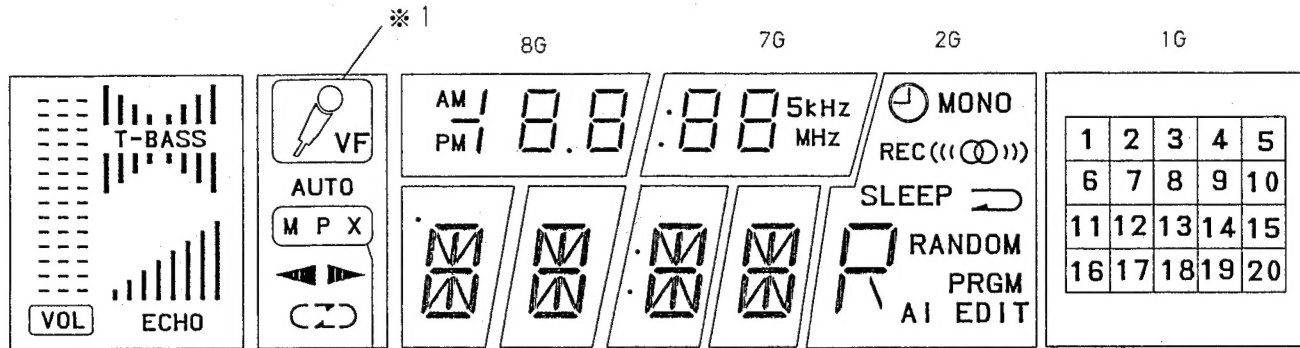
A  
抵抗部品コード  
Resistor Code

桁表示  
Figure

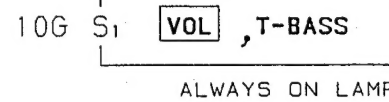
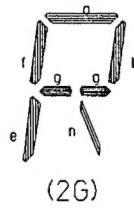
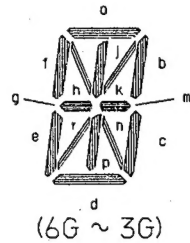
抵抗値  
Value of resistor

チップ抵抗  
Chip resistor

Wattage 容量	Type 種類	Tolerance 許容誤差	Symbol 記号	Dimensions/寸法 (mm)	Resistor Code : A 抵抗コード : A
1/32W	1608	± 5 %	CJ	Form/外形	
1/10W	2125	± 5 %	CJ	L W t	
1/8W	3126	± 5 %	CJ	L W t	



※ 2



ALWAYS ON LAMP

ICPIN NO.	78	79	80	1	2	3	4	5	6	7
	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
56	P1	B1	VF	2a	2a	—	—	○ (DOWN)	—	MONO
57	2	B2	※.1	2f	22	n	n	n	n	19
58	3	B3	AUTO	2C	2C	r	r	r	r	AI
59	4	B4	M.P.X	2d	2d	c	c	c	c	EDIT
60	5	B5	※.2	1a	1a	m	m	m	m	PRGM
61	6	B6	◁	1f	1f	b	b	b	b	15
62	7	B7	▷	1c	1c	j	j	j	j	RANDOM
63	8	B8	C	1d	1d	a	a	a	a	13
64	9	B9	⌋	2b	2b	d	d	d	d	((( )))
65	10	B10		2g	2g	p	p	p	p	Ⓢ
66	11	B11		2e	2e	e	e	e	e	10
67	12	B12		○ (UP)	g	g	g	g	g	9
68	13	B13		1b	1b	f	f	f	f	8
69	14	B14		1g	1g	k	k	k	k	7
70	15	B15		1e	1e	h	h	h	h	SLEEP
72	16	ECHO		○ (DOWN)	Ⓢp		○ (UP)			REC
73	17	B15		AM	KHz					4
74	18	B16		PM	MHz					3
75	19	B17		○	5					2
76	20									1
77	21	S1								

ALWAYS ON LAMP

**A MAIN C.B.**

MODELS EZ, EEZ

L801, 802 TC801 9801

BPF831

FM ANT

FM RF Q808

FM MIX

IFT L804

CF801 Q805 CF802

L742

AM IF COIL

FM IF IN 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

AM IF LO 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

FM IF IN 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45

AM IF LO 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60

FM IF IN 61 62 63 64 65 66 67 68 69 70 71 72 73 74

AM IF LO 75 76 77 78 79 80 81 82 83 84 85 86 87 88

FM IF IN 89 90 91 92 93 94 95 96 97 98 99 100 101 102

AM IF LO 103 104 105 106 107 108 109 110 111 112 113 114 115

FM IF IN 116 117 118 119 120 121 122 123 124 125 126 127 128

AM IF LO 129 130 131 132 133 134 135 136 137 138 139 140 141

FM IF IN 142 143 144 145 146 147 148 149 150 151 152 153 154

AM IF LO 155 156 157 158 159 160 161 162 163 164 165 166 167

FM IF IN 168 169 170 171 172 173 174 175 176 177 178 179 180

AM IF LO 181 182 183 184 185 186 187 188 189 190 191 192 193

FM IF IN 194 195 196 197 198 199 200 201 202 203 204 205 206 207

AM IF LO 208 209 210 211 212 213 214 215 216 217 218 219 220

FM IF IN 221 222 223 224 225 226 227 228 229 230 231 232 233

AM IF LO 234 235 236 237 238 239 240 241 242 243 244 245 246

FM IF IN 247 248 249 250 251 252 253 254 255 256 257 258 259

AM IF LO 260 261 262 263 264 265 266 267 268 269 270 271 272

FM IF IN 273 274 275 276 277 278 279 280 281 282 283 284 285

AM IF LO 286 287 288 289 290 291 292 293 294 295 296 297 298

FM IF IN 299 300 301 302 303 304 305 306 307 308 309 310 311

AM IF LO 312 313 314 315 316 317 318 319 320 321 322 323 324

FM IF IN 325 326 327 328 329 330 331 332 333 334 335 336 337

AM IF LO 338 339 340 341 342 343 344 345 346 347 348 349 350

FM IF IN 351 352 353 354 355 356 357 358 359 360 361 362 363

AM IF LO 364 365 366 367 368 369 370 371 372 373 374 375 376

FM IF IN 377 378 379 380 381 382 383 384 385 386 387 388 389

AM IF LO 390 391 392 393 394 395 396 397 398 399 400 401 402

FM IF IN 403 404 405 406 407 408 409 410 411 412 413 414 415

AM IF LO 416 417 418 419 420 421 422 423 424 425 426 427 428

FM IF IN 429 430 431 432 433 434 435 436 437 438 439 440 441

AM IF LO 442 443 444 445 446 447 448 449 450 451 452 453 454

FM IF IN 455 456 457 458 459 460 461 462 463 464 465 466 467

AM IF LO 468 469 470 471 472 473 474 475 476 477 478 479 480

FM IF IN 481 482 483 484 485 486 487 488 489 490 491 492 493

AM IF LO 494 495 496 497 498 499 500 501 502 503 504 505 506

FM IF IN 507 508 509 510 511 512 513 514 515 516 517 518 519

AM IF LO 520 521 522 523 524 525 526 527 528 529 530 531 532

FM IF IN 533 534 535 536 537 538 539 540 541 542 543 544 545

AM IF LO 546 547 548 549 550 551 552 553 554 555 556 557 558

FM IF IN 559 560 561 562 563 564 565 566 567 568 569 570 571

AM IF LO 572 573 574 575 576 577 578 579 580 581 582 583 584

FM IF IN 585 586 587 588 589 590 591 592 593 594 595 596 597

AM IF LO 598 599 600 601 602 603 604 605 606 607 608 609 610

FM IF IN 611 612 613 614 615 616 617 618 619 620 621 622 623

AM IF LO 624 625 626 627 628 629 630 631 632 633 634 635 636

FM IF IN 637 638 639 640 641 642 643 644 645 646 647 648 649

AM IF LO 650 651 652 653 654 655 656 657 658 659 660 661 662

FM IF IN 663 664 665 666 667 668 669 670 671 672 673 674 675

AM IF LO 676 677 678 679 680 681 682 683 684 685 686 687 688

FM IF IN 689 690 691 692 693 694 695 696 697 698 699 700 701

AM IF LO 702 703 704 705 706 707 708 709 710 711 712 713 714

FM IF IN 715 716 717 718 719 720 721 722 723 724 725 726 727

AM IF LO 728 729 730 731 732 733 734 735 736 737 738 739 740

FM IF IN 741 742 743 744 745 746 747 748 749 750 751 752 753

AM IF LO 754 755 756 757 758 759 760 761 762 763 764 765 766

FM IF IN 767 768 769 770 771 772 773 774 775 776 777 778 779

AM IF LO 780 781 782 783 784 785 786 787 788 789 790 791 792

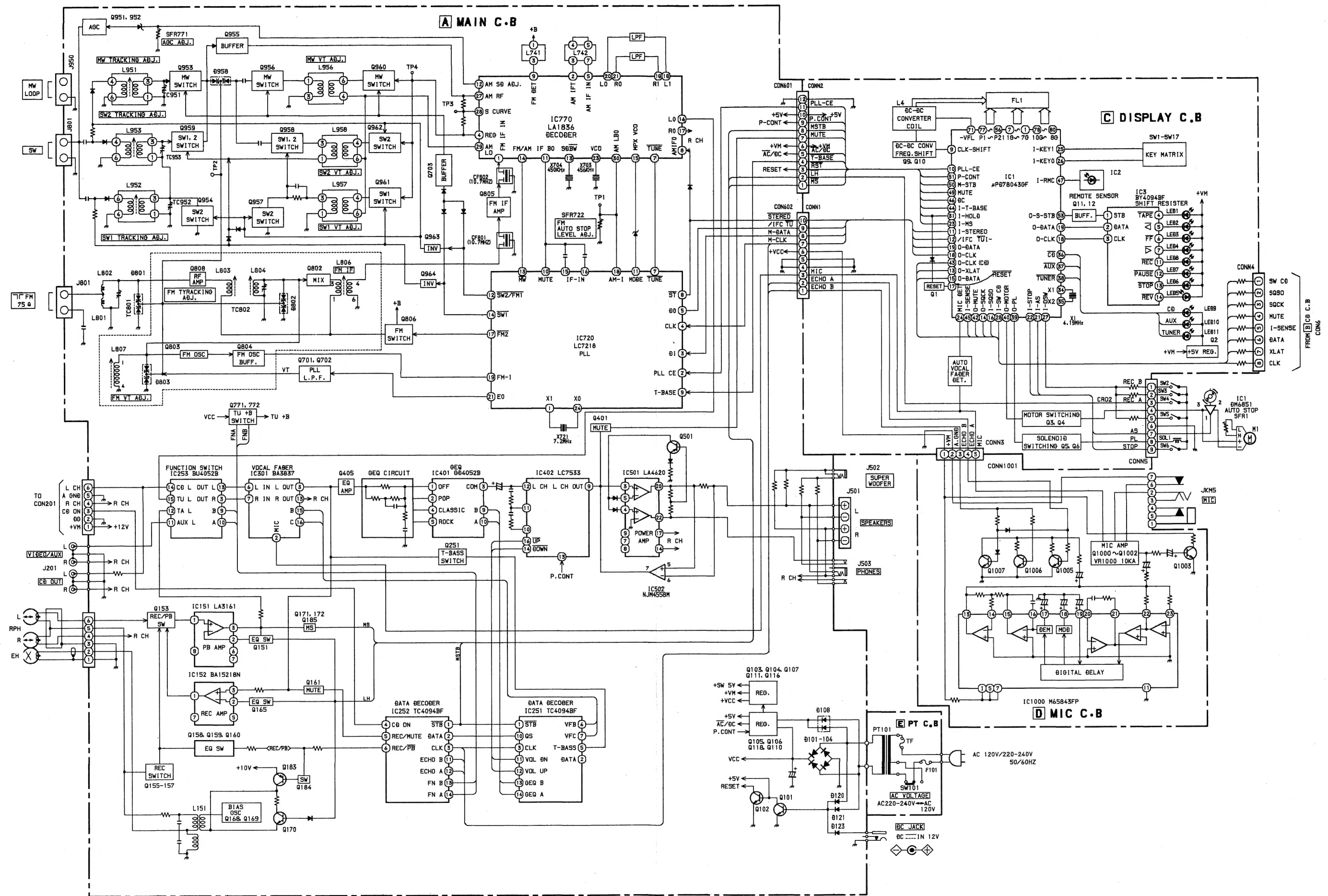
FM IF IN 793 794 795 796 797 798 799 800 801 802 803 804 805

AM IF LO 806 807 808 809 810 811 812 813 814 815 816 817 818

FM IF IN 819 820 821 822 823 824 825 826 827 828 829 830 831

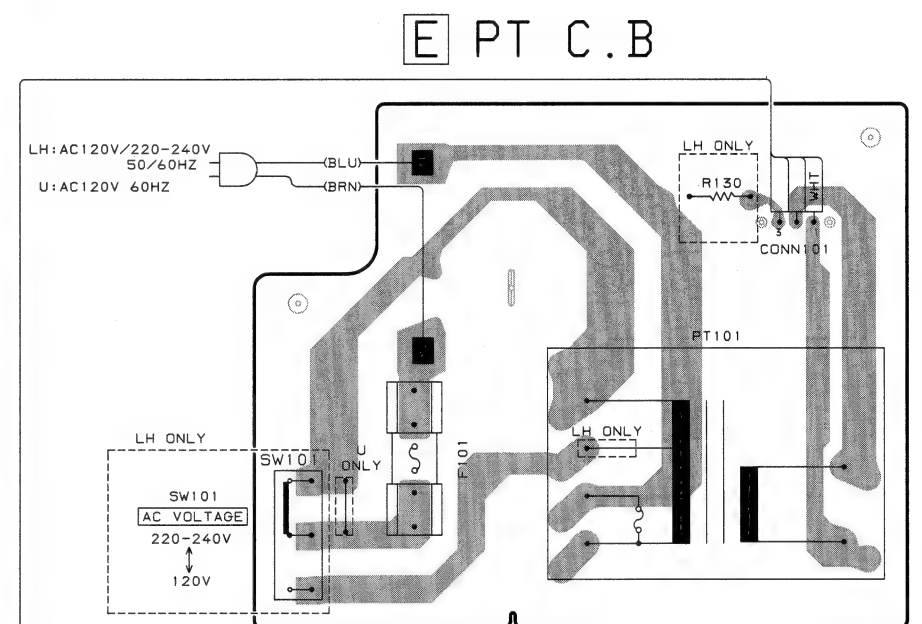
AM IF LO 832 833 834 835 836 837 838 839 840 8

BLOCK DIAGRAM – 2 (MAIN : HE)



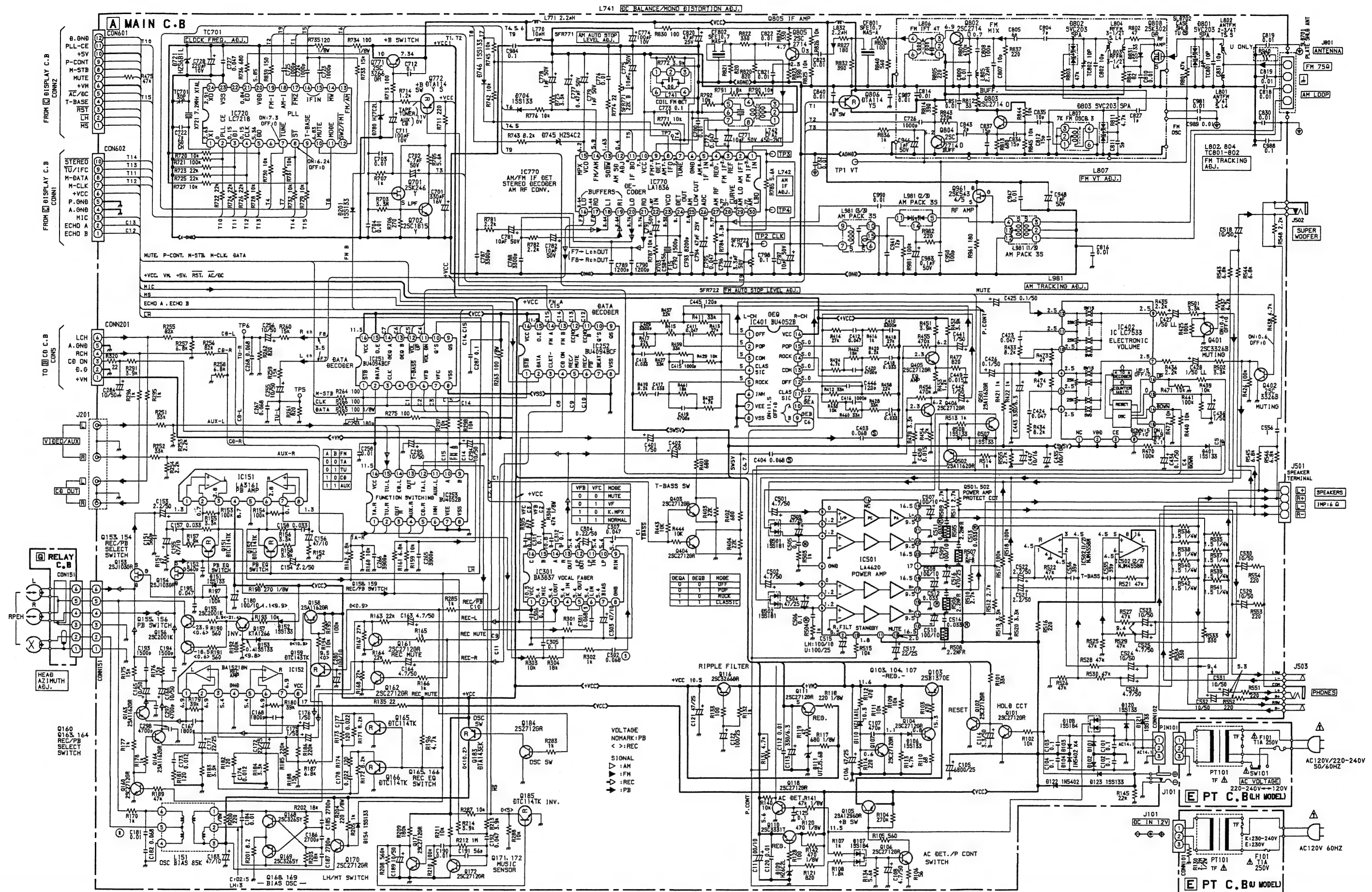


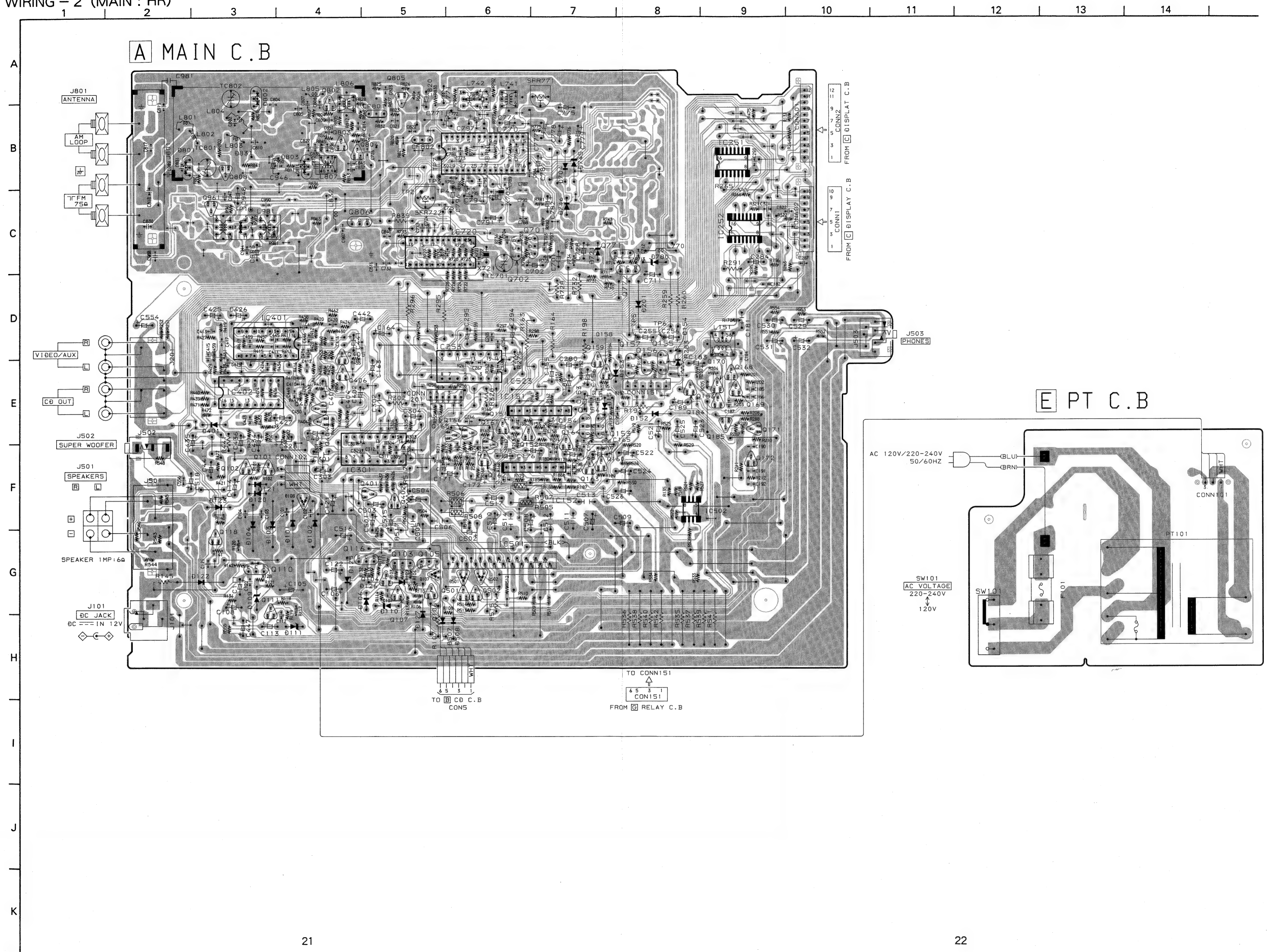






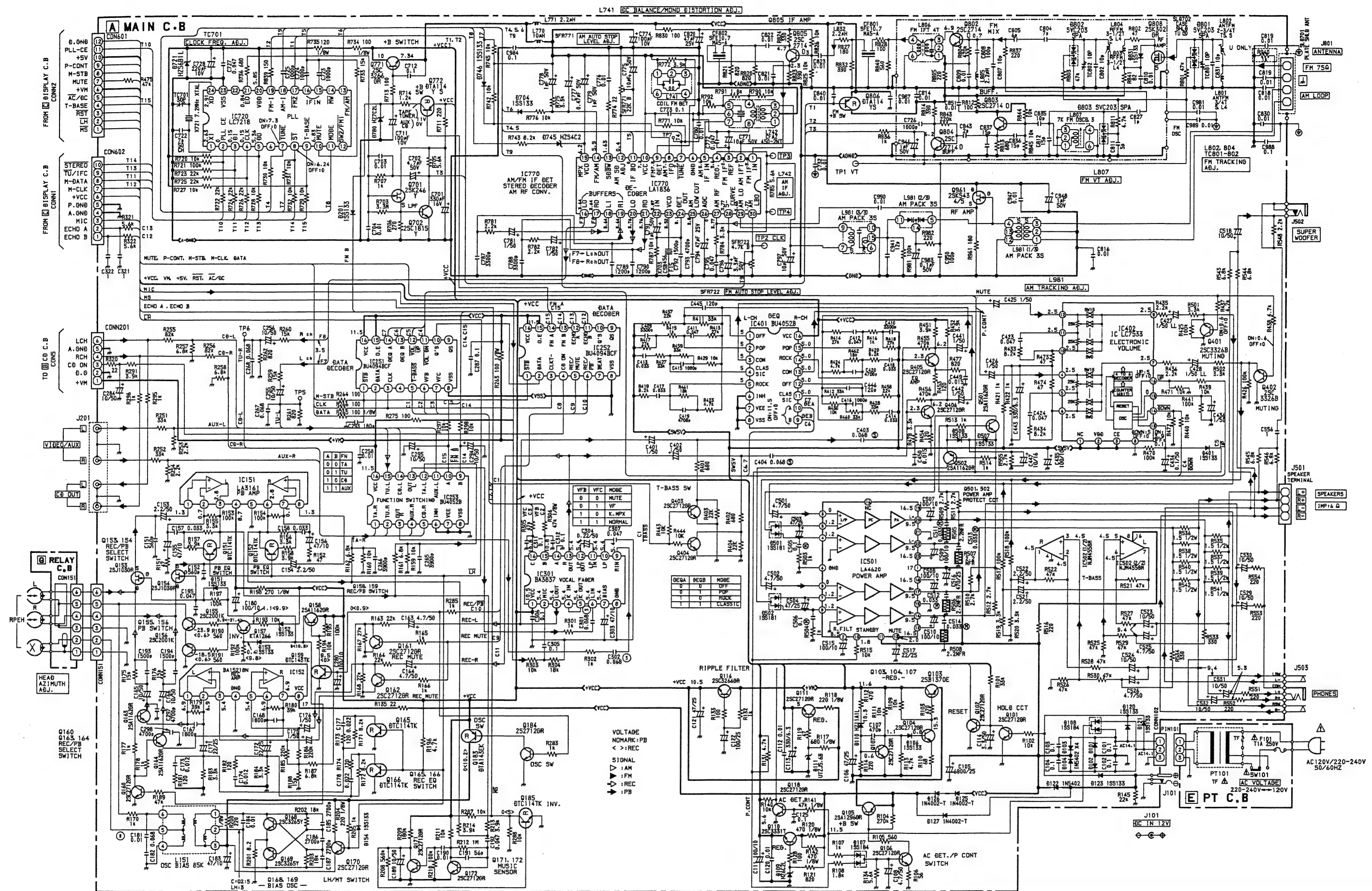
SCHEMATIC DIAGRAM - 1 (MAIN : LH, U)

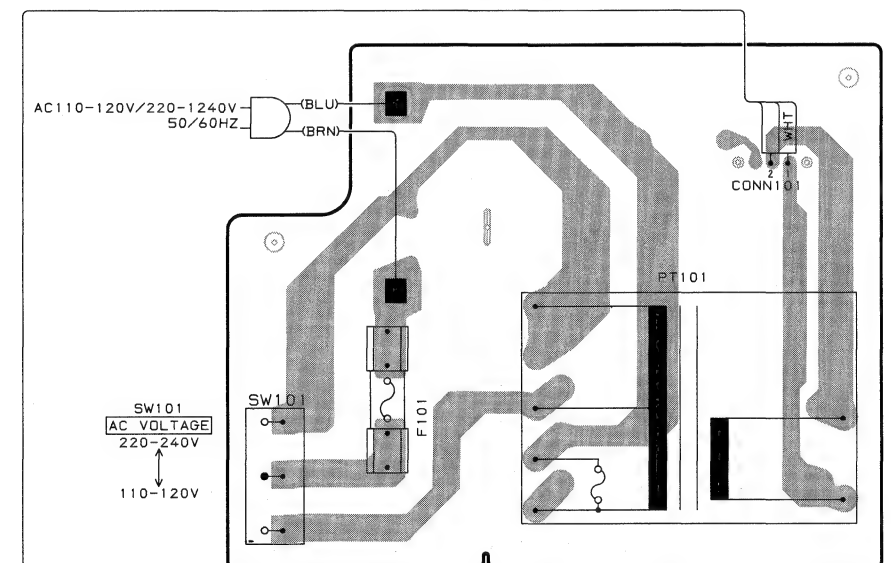






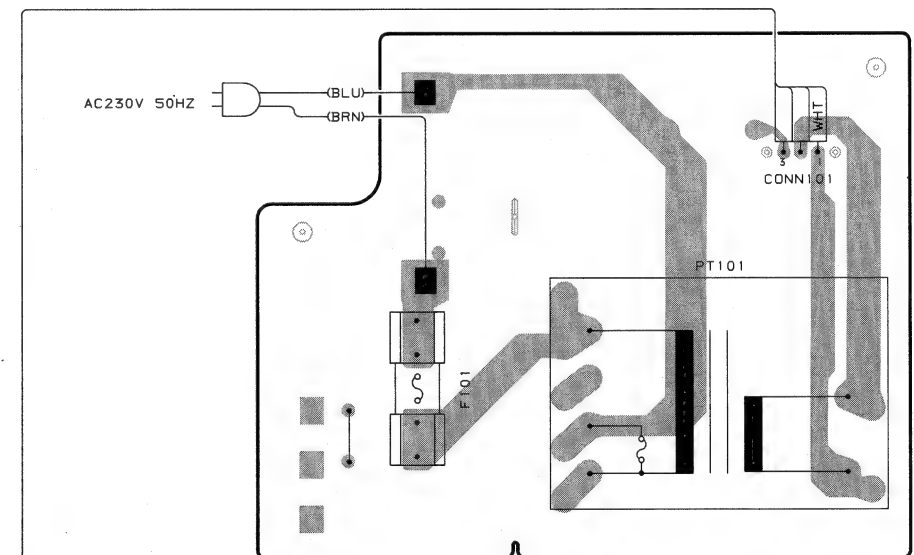
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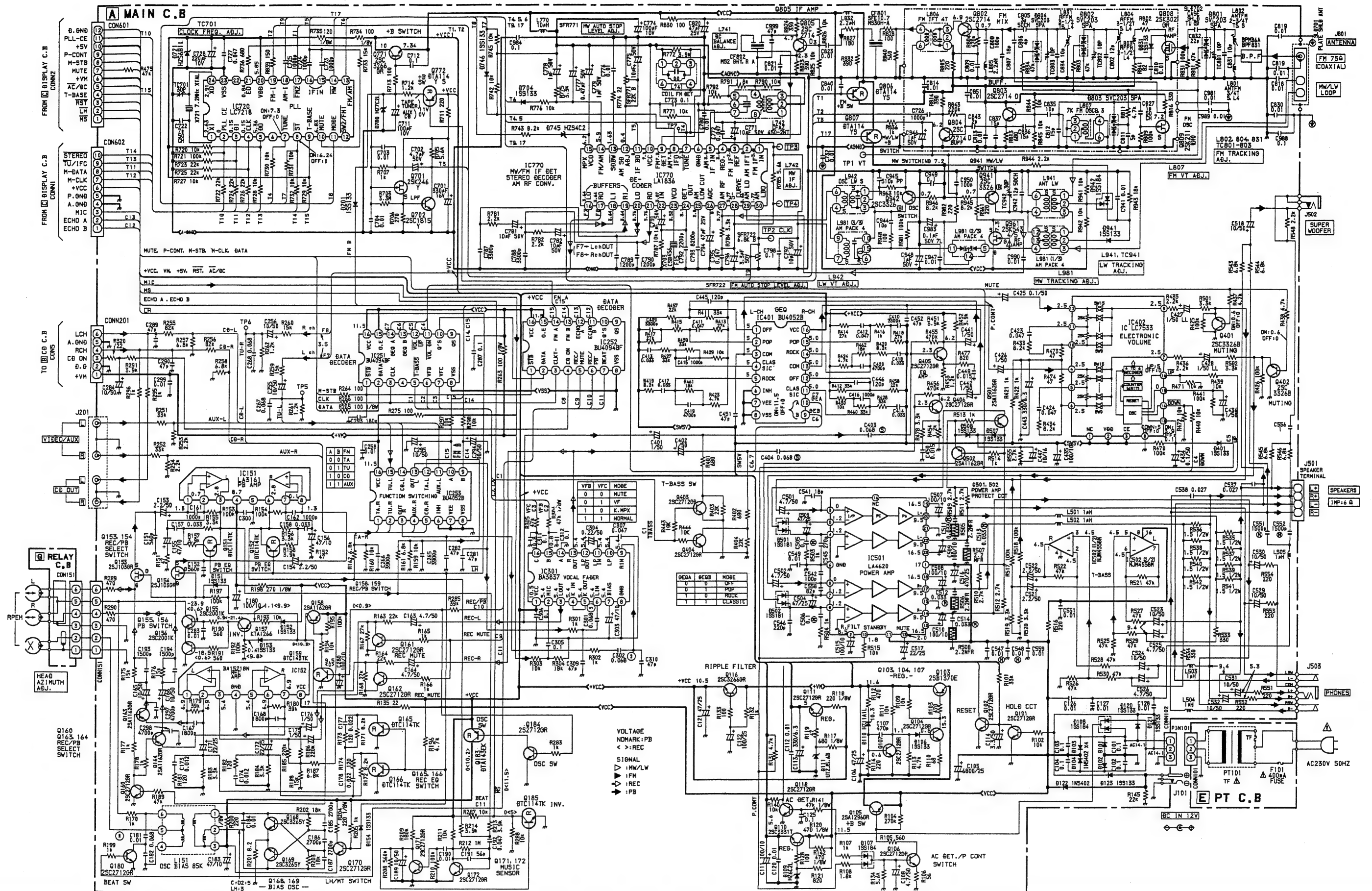


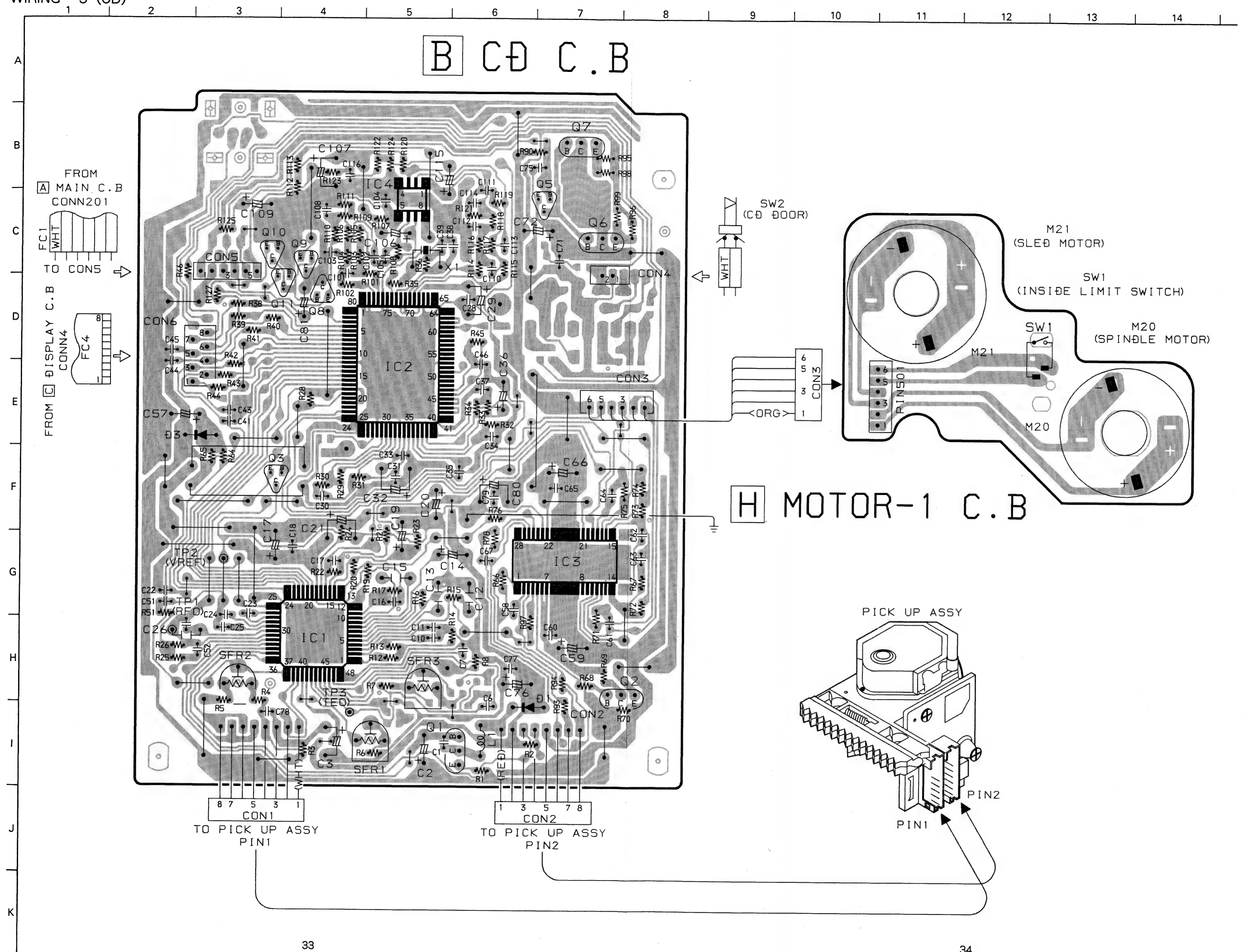






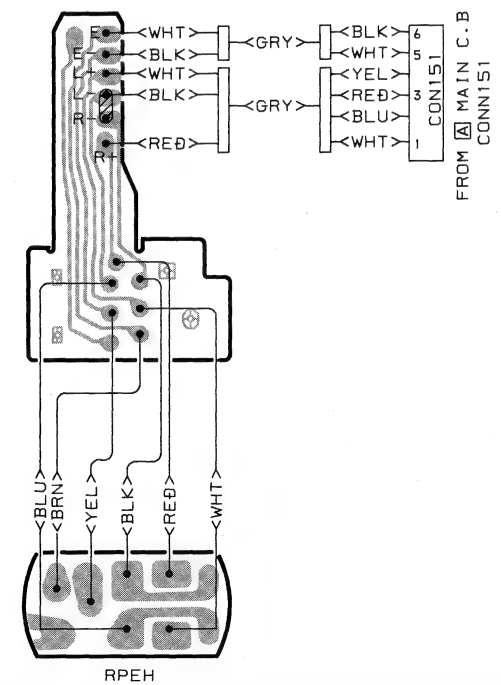
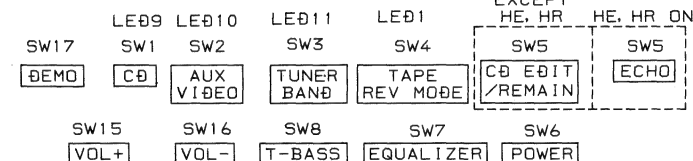
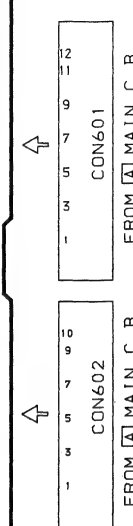
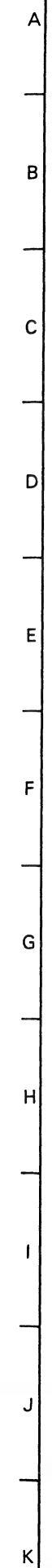
SCHEMATIC DIAGRAM - 4 (MAIN : EZ, EEZ, AP1Z)



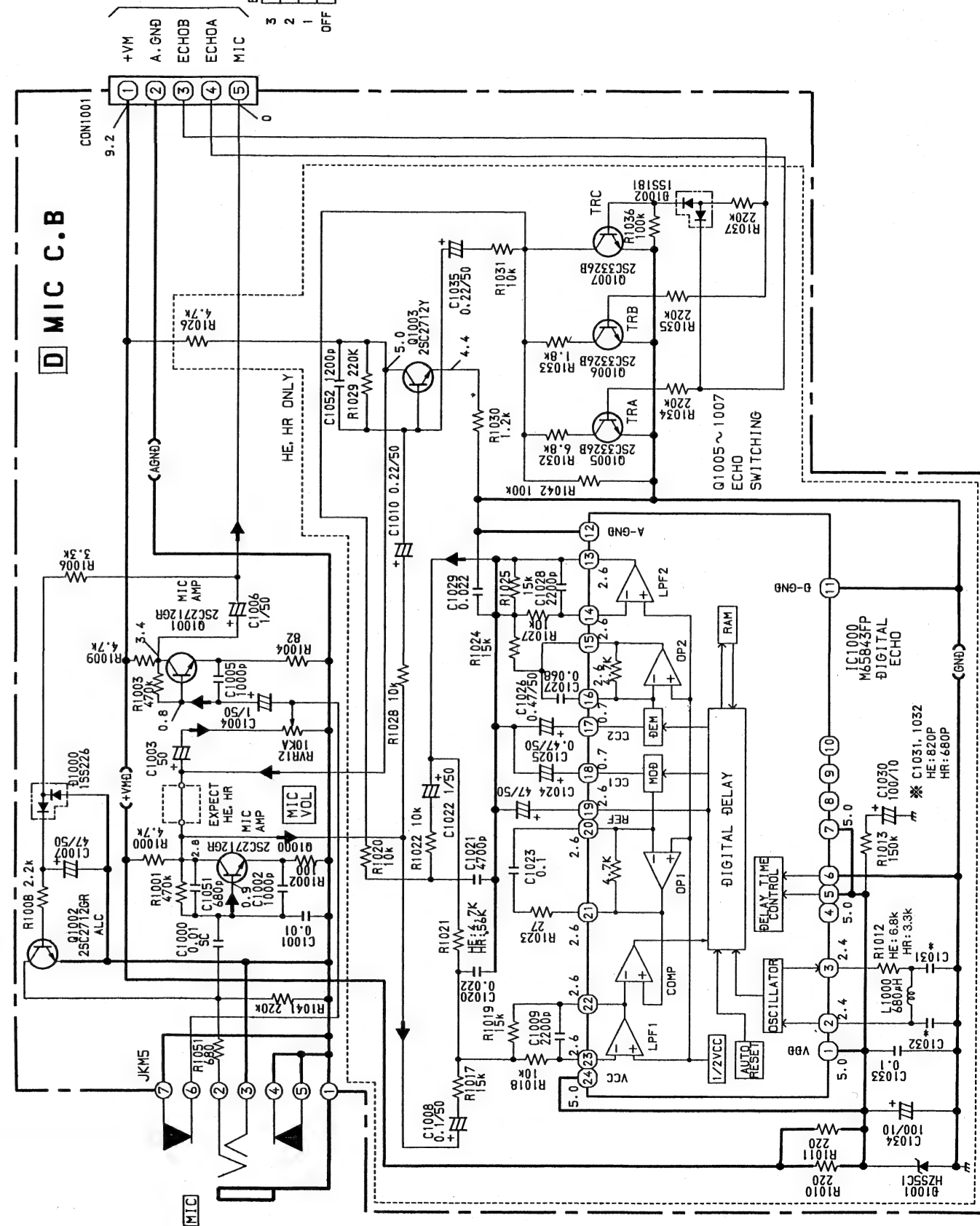
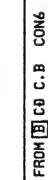








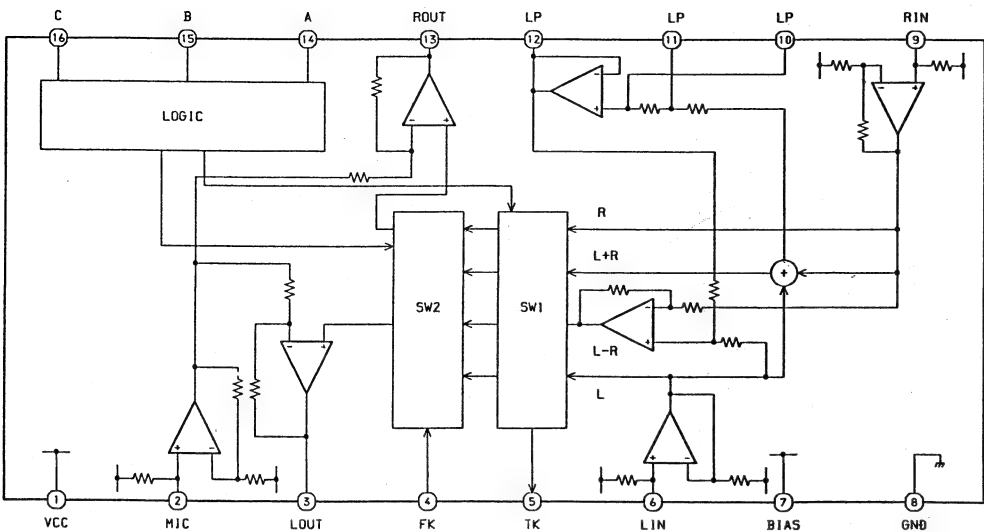




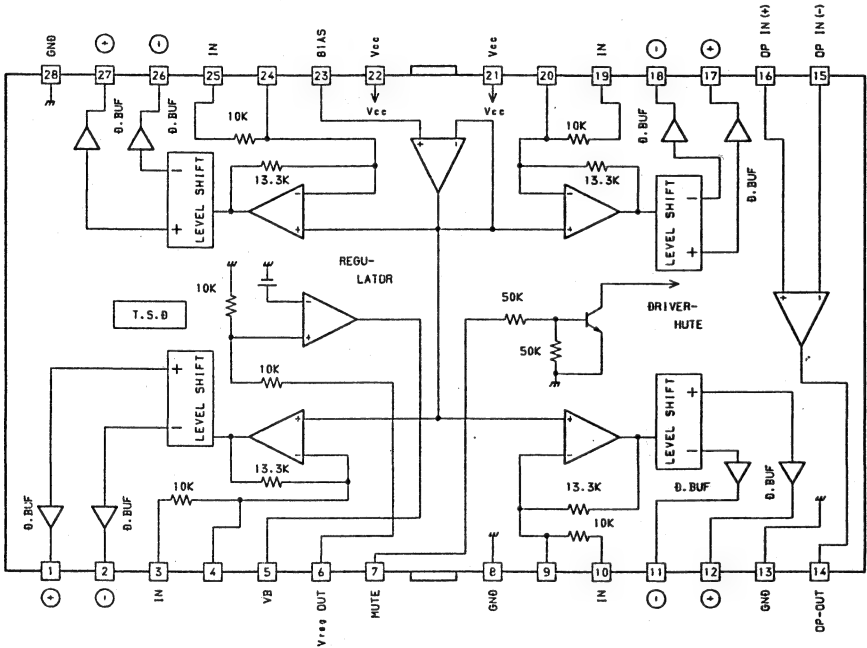


IC BLOCK DIAGRAM

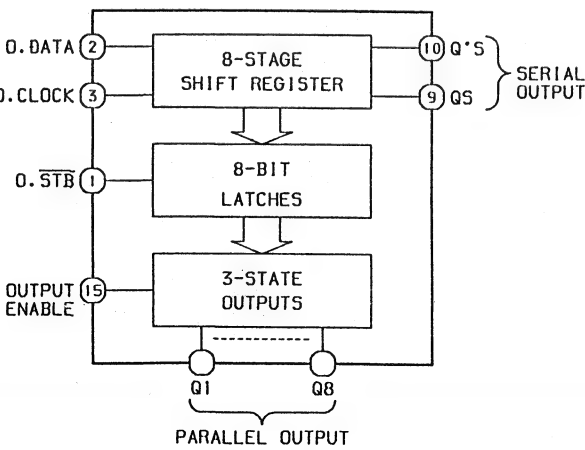
IC,BA3837



IC,BA6397



IC,BU4094BF/BCF



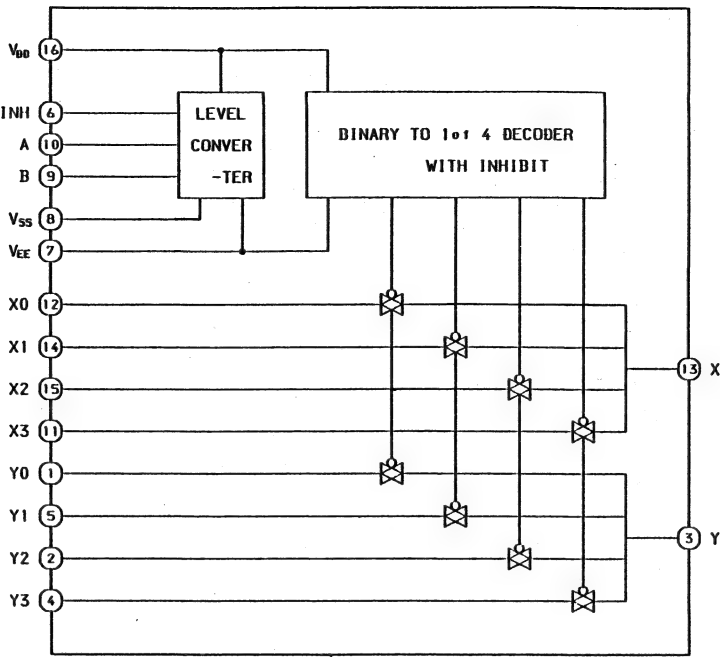
Q1:0.00LBY ON  
Q2:0.00LBY C  
Q3:0.EXT.REC  
Q4:0.INT.REC  
Q5:0.PLAY  
Q6:0.PB2  
Q7:0.LED  
Q8:0.RMT

TRUTH TABLE

CLOCK	OUTPUT ENABLE	STROBE	DATA	PARALLEL OUTPUTS		SERIAL OUTPUTS	
				Q1	Qn	Q5	Q'S
L	L	x	x	Z	Z	Q7	NO CHG.
L	L	x	x	Z	Z	Q7	NO CHG.
H	L	x	x	NO CHG.	NO CHG.	Q7	NO CHG.
H	H	H	L	L	Qn-1	Q7	NO CHG.
H	H	H	H	H	Qn-1	Q7	NO CHG.
H	H	x	x	NO CHG.	NO CHG.	NO CHG.	Q5

Z = HIGH IMPEDANCE  
x = DON'T CARE

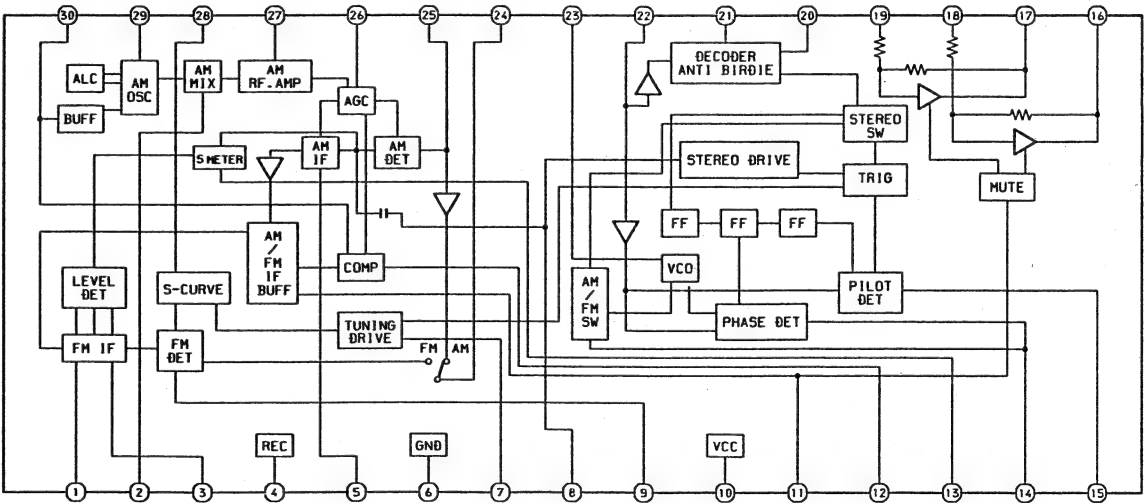
IC,BU4052B



INHIBIT	A	B	ON SWITCH
L	L	L	X0, Y0
L	H	L	X1, Y1
L	L	H	X2, Y2
L	H	H	X3, Y3
H	X	X	NONE

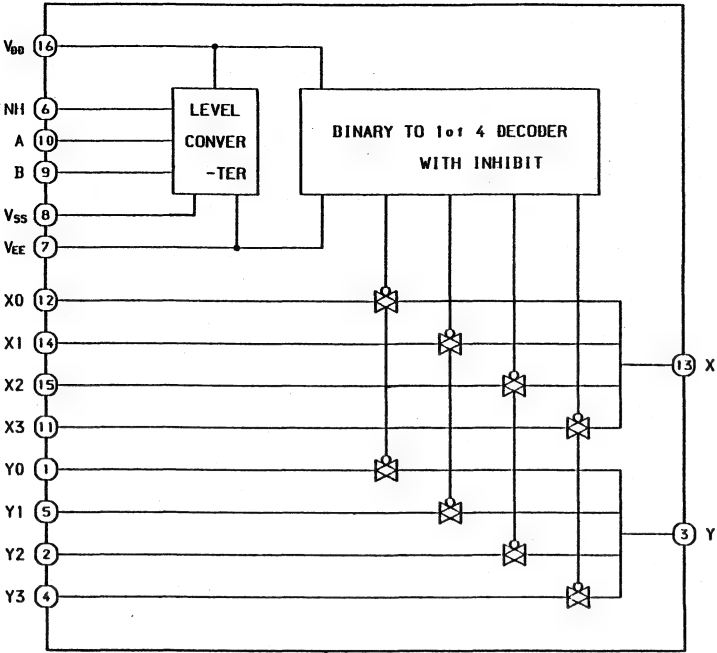
X=Don't Care

IC,LA1836



IC,M65843FP

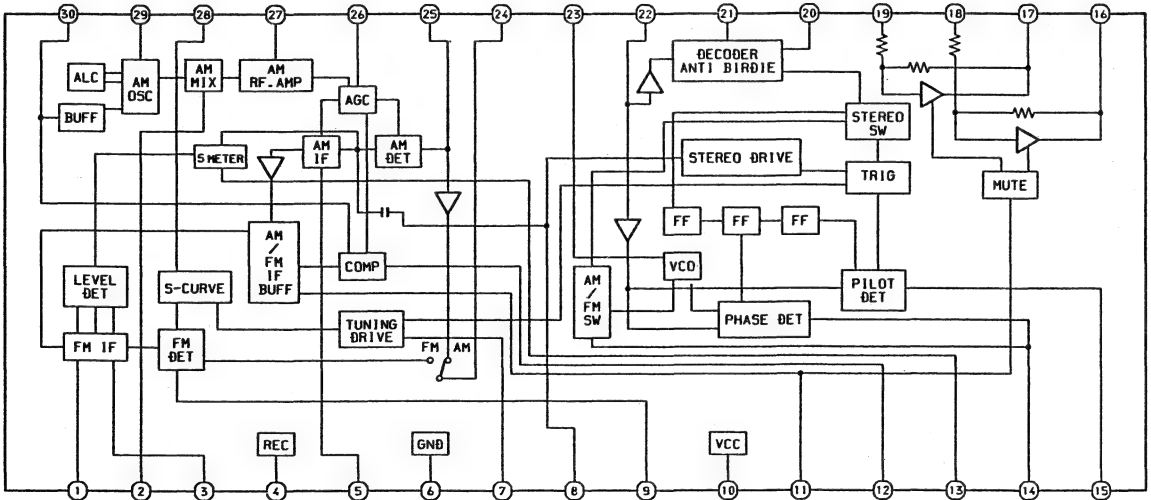
IC,BU4052B



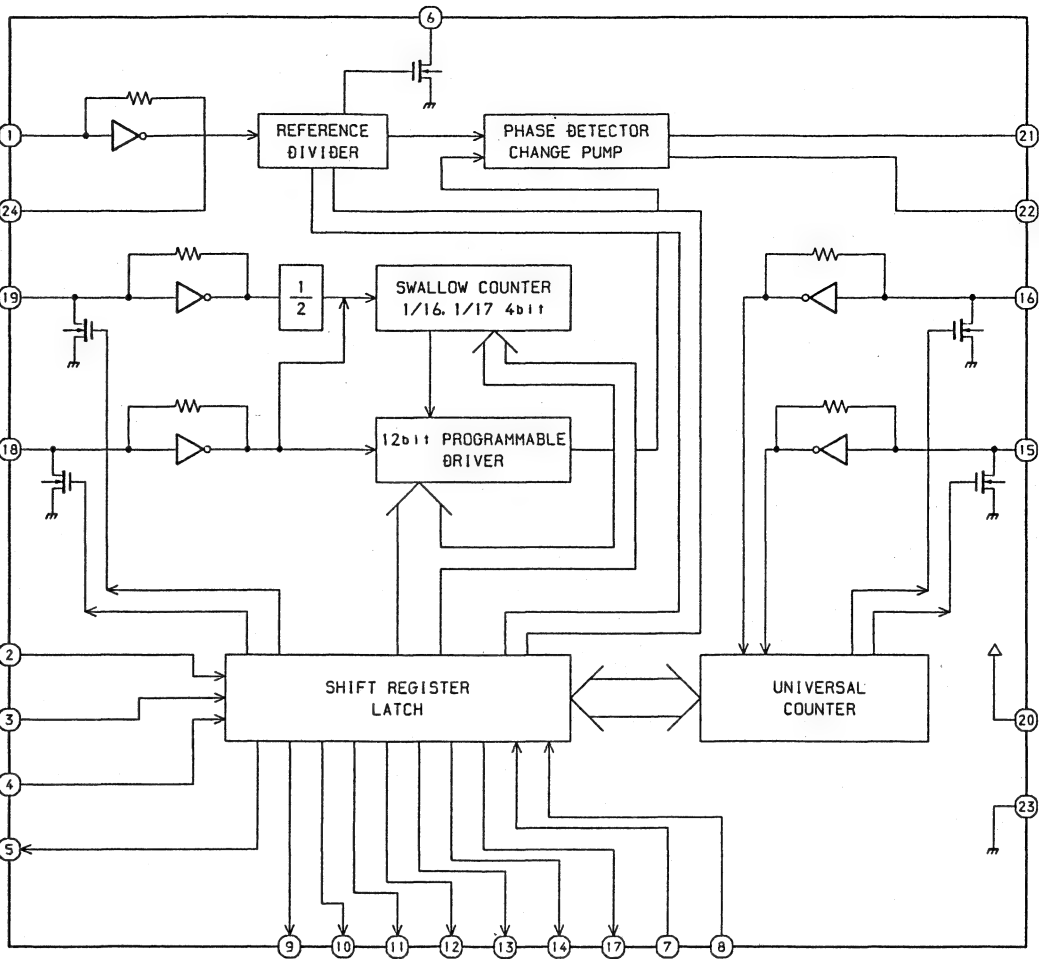
INHIBIT	A	B	ON SWITCH
L	L	L	X0, Y0
L	H	L	X1, Y1
L	L	H	X2, Y2
L	H	H	X3, Y3
H	X	X	NONE

X=Don't Care

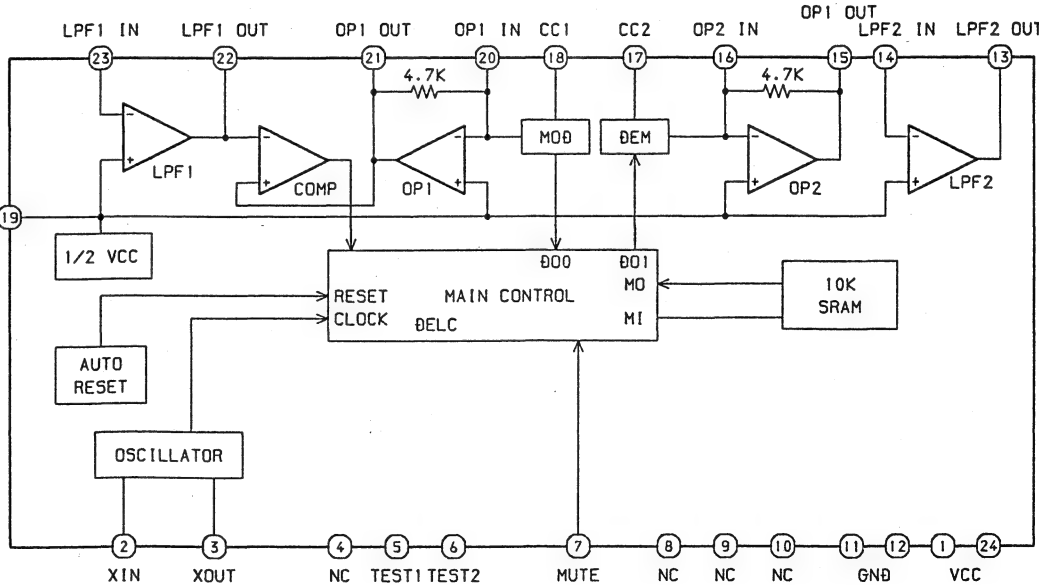
IC,LA1836



IC,LC7218



IC,M65843FP



IC DESCRIPTION

IC,  $\mu$ PD78043GF

Pin No.	Pin Name	I/O	Description
1~7	7G~1G	O	FL display digit output.
8	VDD	—	Power supply.
9	CLK SHIFT	O	CLK SHIFT output for Tuner.
10	PLL-CE	O	Chip enable output for tuner PLL IC.
11	I-STEREO	I	Tuner MONO/ST LED input.
12	I-TU/IFC	I	Tuner IFC input.
13	O-XLAT	O	Latch output for DSP IC.
14	O-SQCK	O	SQSO (DSP IC) read-out clock output.
15	O-DATA	O	Serial data output for DSP IC.
16	I-SQSO	I	Sub Q 80-bit serial data input.
17	RESET	I	Reset input. Reset at L.
18	O-CLK	O	Serial data clock output for shift register IC PLL IC.
19	O-DATA	O	Serial data output for shift register IC PLL IC.
20	AVSS	—	GND.
21	I-AS	I	DECK reel table rotation detect pulse input.
22	I-STOP	I	DECK STOP status detect switch input.
23	I-MS	I	Music sensor signal input
24	MIC DET	I	Mic signal detect.
25	I-KEY1	I	Key input.
26	I-KEY0	I	Key input.
27	I-DSW	I	DECK detect switch input (CST, RECA, RECB).
28	I-SWCD	I	CD lid OPEN/CLOSE detect SW signal input.
29	AVDD	—	A/D converter analog power supply.
30	AVREF	I	A/D converter reference voltage input.
31	I-HOLD	I	CPU hold signal input. Hold mode at L.
32	XT2	—	Sub clock generator.
33	VSS <sub>2</sub>	—	Connected to GND.
34	X1	—	4.19 MHz oscillation circuit.
35	X2	—	
36	CD	O	Function LED driver output.
37	AUX		
38	TUNER		
39	O-PL	O	DECK plunger output. ON at H.
40	O-MOTOR	O	DECK motor output. ON at H.
41	PAL/NTSC	O	PAL/NTSC select output.
42	O-MUTE	O	MUTE signal for DSP IC. Muted at H.
43	O-CLK (CD)	O	Serial data transfer clock output for DSP IC.
44	I-T-BASE	I	Time base input for clock (8 Hz).
45	I-SENS	I	SENS data input from DSP IC.
46	DC	I	DC detect.
47	I-RMC	I	Remote control signal input.

Pin No.	Pin Name	I/O	Description
48	IC	—	Connected to GND.
49	MUTE	O	Mute output for tuner.
50	O-M-STB	O	Shift register IC strobe signal.
51	P-CONT	O	POWER AMP control signal. POWER AMP is on at L.
52	VDD	—	Power supply.
53	O-F-STB	O	Shift register IC strobe signal.
54	I-SPC2	I	Tuner area code, BBE, VF matrix data input.
55	I-SPC1	I	
56~70	P1~P15	O	FL plate driver.
71	-VFL	—	Power for the FL display.
72~77	P16~P21	O	FL plate driver.
78~80	10G~8G	O	FL display digit output.

IC,CXD2518Q

Pin No.	Pin Name	I/O	Description
1	SCOR	O	1H when the subcode sync S0 or S1 is detected.
2	SBSO	O	SUB P~W serial output.
3	EXCK	I	Clock input for SBSO read out.
4	SQSO	O	SUBQ 80-bit serial output.
5	SQCK	I	Clock input for SQSO read out.
6	MUTE	I	H to mute. L to cancel.
7	SENS	O	SENS signal output to CPU.
8	XRST	I	System reset. L to reset.
9	DATA	I	Serial data input from CPU.
10	XLAT	I	Latch input from CPU. Latching serial data at fall down.
11	CLOCK	I	Clock input from CPU to transfer serial data.
12	VSS	—	GND.
13	SEIN	I	SENS input from SSP.
14	CNIN	I	Numbers of track jump are counted and input.
15	DATO	O	Serial data output to SSP.
16	XLTO	O	Serial data latched output to SSP. Latched at fall down edge.
17	CLKO	O	Clock input from SSP to transfer serial data.
18	TEST2	I	TEST.
19~21	SPOB~D	I	Input from INSIDE LIMIT switch.
22	XLON	O	Mute control output.
23	FOK	I	Focus OK input pin. Used for SENS output and servo auto sequencer.
24	MON	O	Spindle motor ON/OFF control output.
25	MDP	O	Spindle motor servo control output.
26	MDS	O	Spindle motor servo control output.
27	LOCK	O	GFS is sampled by 460Hz. H output when GFS is H. L output when GFS is L for 8 consecutive times.
28	TEST1	I	TEST.
29	FILO	O	Filter output to master PLL. (slave=digital PLL)
30	FILI	I	Filter input to master PLL.
31	PCO	O	Charge-pump output to master PLL.
32	VDD	—	Power supply input.
33	AVSS1	—	GND.
34	CLTV	I	VCO control voltage input to master PLL.
35	AVDD1	—	Power supply input.
36	RF	I	EFM signal input.
37	BIAS	I	Constant current input to asymmetry correction circuit.
38	ASYI	I	Compare voltage input to asymmetry correction circuit.
39	ASYO	O	EFM full swing output. (L=VSS, H=VDD)
40	ASYE	I	L: asymmetry correction OFF. H: asymmetry correction ON
41	WDCK	O	D/A interface, word clock (2Fs) for 48-bit slot.
42	LRCK	O	D/A interface, LR clock (Fs) for 48-bit slot.

Pin No.	Pin Name	I/O	Description
43	LRCKI	I	LR clock input to DAC. (48-bit slot)
44	PCMD	O	D/A interface, serial data. (2's complement, MSB first)
45	PCMDI	I	Audio data input to DAC. (48-bit slot)
46	BCK	O	D/A interface, bit clock.
47	BCKI	I	Bit clock input to DAC. (48-bit slot)
48	GTOP	O	GTOP output.
49	XUGF	O	XUGF output.
50	XPCK	O	XPLCK output.
51	GFS	O	GFS output.
52	RFCK	O	RFCK output.
53	VSS	—	GND.
54	C2PO	O	C2PO output.
55	XROF	O	XRAOF output.
56	MNT3	O	MNT3 output.
57	MNT1	O	MNT1 output.
58	MNT0	O	MNT0 output.
59	FSTT	O	Pins-73 and -74 divided-by 2/3 output.
60	C4M	O	4.2336MHz output.
61	DOUT	O	Digital Out connector output signal.
62	EMPH	O	H when the playback disc has emphasis. L when it does not.
63	EMPHI	I	DAC emphasis ON/OFF. H when ON. L when OFF
64	WFCK	O	WFCK (WRITE FRAME CLOCK) output.
65	ZEROL	O	No sound data detection output. H (L-ch) when no sound data is detected.
66	ZEROR	O	No sound data detection output. H (R-ch) when no sound data is detected.
67	DTSI	I	TEST for DAC.
68	VDD	—	Power supply input.
69	LPWM	O	L-ch PWM output. (normal polarity)
70	NLPWM	O	L-ch PWM output. (reversed polarity)
71	AVDD2	—	Power supply input to L-ch PWM driver.
72	AVDD3	—	Power supply input to X'tal.
73	XTAI	I	X'tal input to 33.8688MHz oscillator circuit.
74	XTAO	O	33.8688MHz X'tal oscillator circuit output.
75	AVSS3	—	Power supply input to X'tal.
76	AVSS2	—	Power supply input to PWM driver.
77	NRPWM	O	R-ch PWM output. (reversed phase)
78	RPWM	O	R-ch PWM output. (normal phase)
79	DTS2	I	TEST-2 for DAC.
80	DTS3	I	TEST-3 for DAC.



# IC,CXA1782BQ

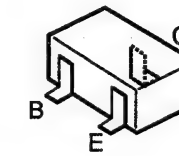
Pin No.	Pin Name	I/O	Description
1	FEO	O	Focus error amplifier output pin. This pin is connected to the FZC comparator input internally.
2	FEI	I	Focus error input pin.
3	FDFCT	I	Capacitor connection pin for time constant used when there is defect.
4	FGD	I	Corrects the focus servo high frequency gain.
5	FLB	I	This is a pin where the time constant is externally connected to raise the low frequency gain of the focus servo.
6	FEO	O	Focus drive output.
7	FEM	I	Focus amplifier inverted input pin.
8	SRCH	I	This is a pin where the time constant is externally connected to generate the focus search waveform.
9	TGU	I	This is a pin where the selection time constant is externally connected to set the tracking servo the high frequency gain.
10	TG2	I	This is a pin where the selection time constant is externally connected to set the tracking high frequency gain.
11	FSET	I	Pin for setting peak of the phase compensator of the focus tracking.
12	TAM	I	Tracking amplifier inverted input pin.
13	TAO	O	Tracking drive output.
14	SLP	I	Sled amplifier non-inverted input pin.
15	SLM	I	Sled amplifier inverted input pin.
16	SLO	O	Sled drive output.
17	ISET	I	The current which determines height of the focus search, track jump and sled kick is input.
18	VCC	—	+ 5 V power supply pin.
19	CLK	I	Serial data transfer clock input from CPU.
20	XLT	I	Latch input from CPU.
21	DATA	I	Serial data input from CPU.
22	XRST	I	Reset input pin. Reset at L.
23	COUT	O	Signal output to count the number of tracks.
24	SENS	O	FZC, DFCT, TZC, Gain or BAL is output depending on the command from CPU.
25	FOK	O	Output pin of the focus OK comparator.
26	CC2	O	Input pin where the DEFECT bottom hold output is capacitance coupled.
27	CC1	I	DEFECT bottom hold output pin.
28	CB	I	This is a pin where the DEFECT bottom hold capacitor is connected.
29	CP	I	This is a pin where the MIRR hold capacitor is connected and MIRR comparator non-inverted signal is input.
30	RFI	I	Input pin where the RF summing amplifier output is capacitance coupled.
31	RFO	O	RF summing amplifier output pin.
32	RFM	I	RF summing amplifier inverted input pin. Gain of RF amplifier is determined by the resistor connected between RFO and this pin.
33	LD	O	APC amplifier output pin.
34	PHD	I	APC amplifier input pin.

Pin No.	Pin Name	I/O	Description
35~36	PHD1~2	I	RF I-V amplifier inverted input pin. These pins are connected to the A+C and B+D pins of the optical pickup.
37	FE-BIAS	I	Bias adjustment pin of the non-inverted side of the focus error amplifier.
38~39	F~E	I	F and E IV amplifier non-inverted input pins. These pins are connected to the F and E of the optical pickup.
40	EI	—	Gain adjustment pin of the I-V amplifier E.
41	VEE	—	GND connection pin
42	TEO	O	Tracking error amplifier output pin. E-F signal is output.
43	LPFI	I	BAL adjustment comparator input pin.
44	TEI	I	Tracking error input pin.
45	ATSC	I	Window comparator input pin for detecting ATSC.
46	TZC	I	Tracking zero-cross comparator input pin.
47	TDFCT	I	Capacitor connection pin for the time constant used when there is defect.
48	VC	O	DC voltage output pin of VREF. (VDD/2)

## TRANSISTOR ILLUSTRATION



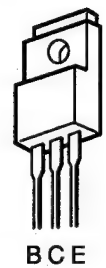
2SA933  
2SA952  
2SA1296  
2SC1815  
2SC2001  
2SC3266  
2SC3331  
2SD1302  
KTA1266



2SA1162  
2SA1362  
2SC2712  
2SC2714  
2SC3265  
2SC3326  
DTA114TK



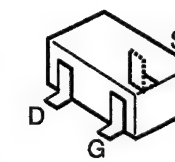
2SA1213



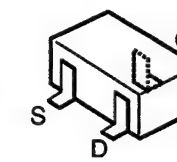
2SB1370



2SC1740S  
DTA114YS



2SK211  
2SK302



2SK543



2SJ103  
2SK246

## TEST MODE

### 1. How to Activate CD Test Mode

- 1) Switch on the CD cover switch. (Should remain ON during CD test mode).
- 2) Insert the AC plug while pressing the function CD button. All FL display tubes will light up, and the test mode will be activated.

### 2. How to Cancel CD Test Mode

- Either one of the following operations will cancel the CD test mode.
- Press the function button.
  - Press the power switch button.
  - Disconnect the AC plug
  - Turn off the CD cover switch.

### 3. CD Test Mode Functions

When test mode is activated, the following mode functions from No.1 to No.5 can be used by pressing the operation keys.

Mode/No.	Operation	FL display	Operation	Contents
Start mode No.1	Test mode activation	All FL light up	<ul style="list-style-type: none"> <li>• Laser diode illuminated under normal circumstances</li> </ul>	Displays the machine mode that it is a test mode. All FL displays light up • Laser current measurement (Across R1 resistor)
Search mode No.2	■ key	□□--	Continual focus search * NOTE 1 (The pickup lens repeats the full-swing up-down motion.) * Avoid continual searches that last for more than 10 minutes.	FOCUS SERVO • Check focus search waveform • Check focus error waveform * FOK/FZC are not monitored in the search mode
Play mode No.3	▶ key	□□1	<ul style="list-style-type: none"> <li>• Normal playback</li> <li>• Focus search is continued if TOC cannot be read * NOTE 1</li> </ul>	FOCUS SERVO/TRACKING SERVO CLV SERVO/SLED SERVO Check FOK/FZC
Traverse mode No.4	key	□□1	<ul style="list-style-type: none"> <li>• During normal disc playback Press once; tracking servo OFF</li> <li>• Press twice; tracking servo ON</li> </ul> * NOTE 2	TRACKING SERVO ON/OFF Tracking balance (traverse) adjustment
Sled mode No.5	◀▶ key	All FL light up	<ul style="list-style-type: none"> <li>• Pickup moves to the outermost track</li> <li>• Pickup moves to the innermost track</li> </ul> * NOTE 3 (During playback, machine operates normally.)	SLED SERVO Check SLED mechanism operation

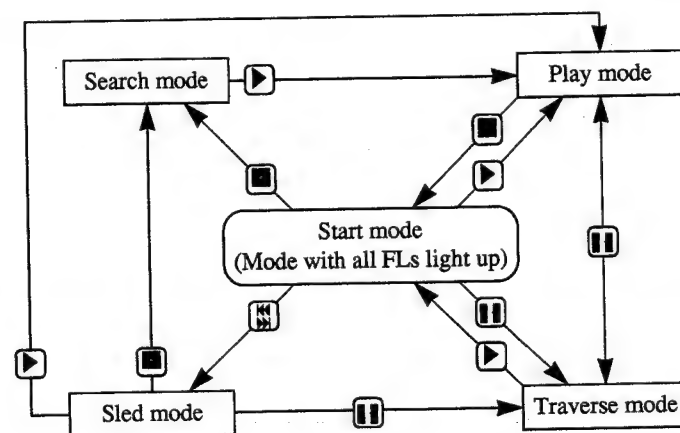
\* NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.

\* NOTE 2: Do not press the ◀▶ or ▶▶ keys when the machine is in the || status is active. If they are pressed, playback will not be possible after the || status has been canceled. If the ◀▶ or ▶▶ keys are pressed in the || status, press the ■ key and return to the start mode (No.1).

\* NOTE 3: When pressing the ◀▶ or ▶▶ keys, take care to avoid damage to the gears. Because the sled motor is activated when the ◀▶ or ▶▶ keys are pressed, even when the pick-up is at the outermost or innermost track.

### 4. Operation Outline

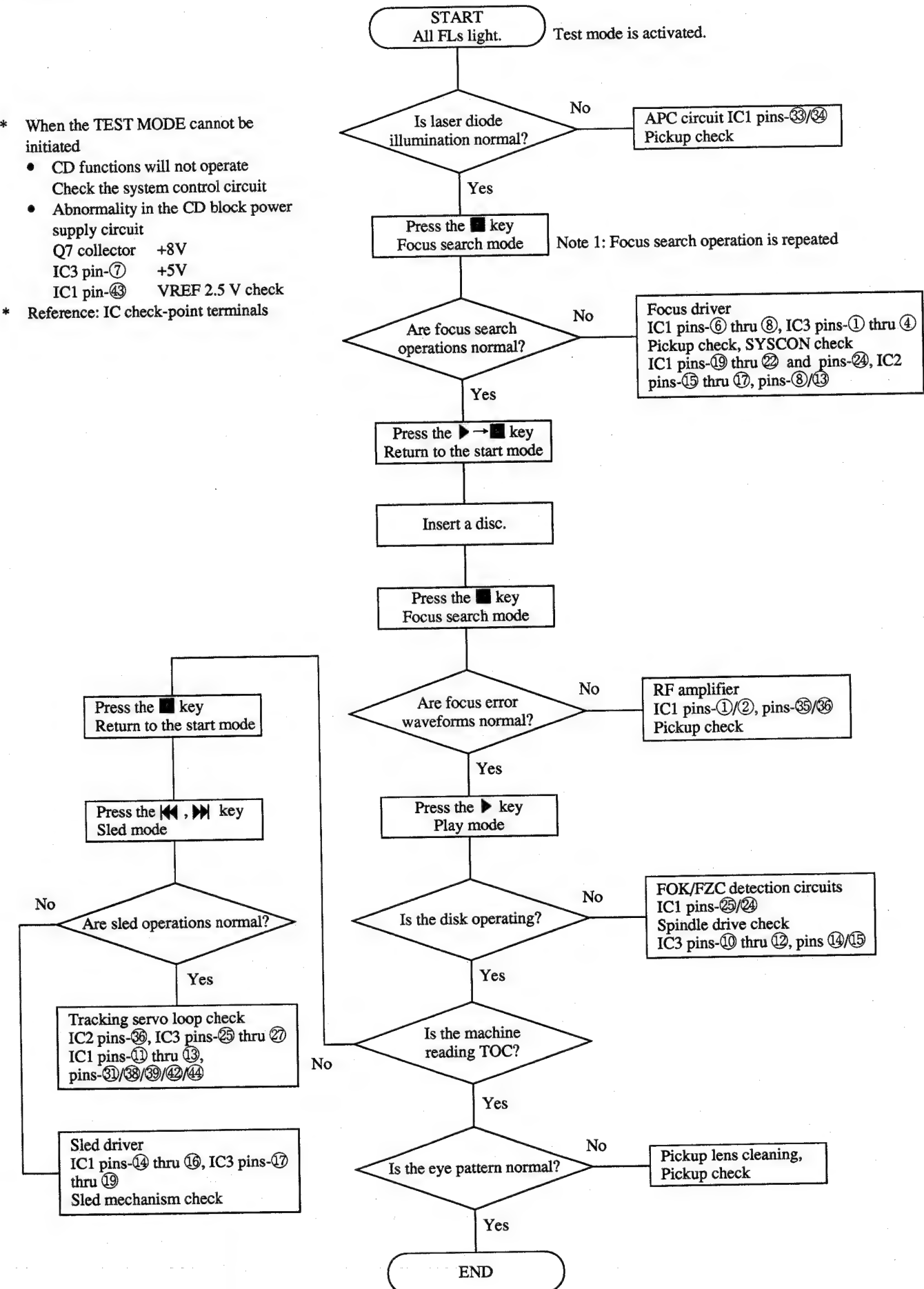
The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.



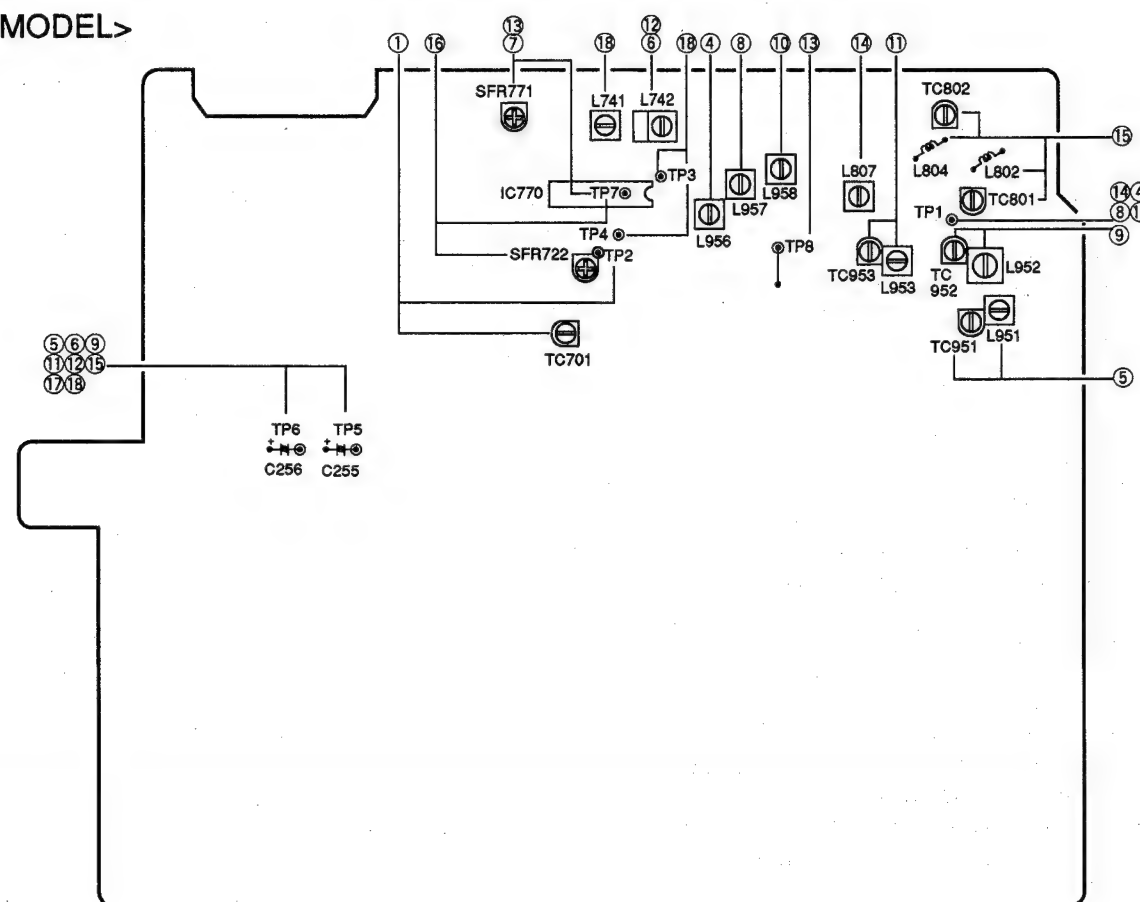
## CD Trouble-shooting

### Flow Chart

- \* When the TEST MODE cannot be initiated
  - CD functions will not operate
  - Check the system control circuit
  - Abnormality in the CD block power supply circuit
    - Q7 collector +8V
    - IC3 pin-⑦ +5V
    - IC1 pin-④ VREF 2.5 V check
- \* Reference: IC check-point terminals



<EXCEPT HE>



- 54

# 16. FM AUTO STOP LEVEL Adjustment

Settings: • Test point: TP7

• Adjustment location: SFR722

• Input level: 23dB

Method: Set FM 98MHz, and adjust SFR722 so that TP7 is about 0.01V. Then decrease the input level by 2dB and check that TP7 is 7.0V.

# 17. FM SEPARATION Check

Settings: • Test point: TP5 (L CH)

TP6 (R CH)

• Input level: 54dB

Method: Set FM 98.0MHz and check that the separation between TP5 and TP6 is 25dB or more.

# 18. DC Balance Adjustment

Settings: • Test point: TP3, 4 (DC BALANCE)

TP5, 6 (MONO DISTORTION)

• SSG 98.0MHz, 54dB (modulation OFF)

• Adjustment location: L741

Method: Set to FM 98.0MHz and adjust L741 so that the voltage between TP3 and TP4 becomes 0±0.04V.

After that the distortion becomes less than 1.3%.

## PRACTICAL SERVICE FIGURE

### <FM SECTION>

HE, HR, LH, U Models

IHF Sensitivity :	4±6dB (at 87.5MHz)
(THD 3%)	2±6dB (at 98.0, 108.0MHz)
S/N ratio :	More than 54dB (at 98MHz)
Distortion :	Less than 1.3% (at 98MHz)
(Input 54dB)	
Intermediate frequency :	10.7MHz
Auto stop level :	23±10dB (at 98MHz)
Stereo separation :	More than 25dB (at 1kHz)

EEZ, EZ Models

IHF Sensitivity :	7±6dB (at 87.5MHz)
(THD 3%)	4±6dB (at 98.0, 108.0MHz)
S/N ratio :	More than 54dB (at 98MHz)
Distortion :	Less than 1.3% (at 98MHz)
(Input 54dB)	
Intermediate frequency :	10.7MHz
Auto stop level :	23±10dB (at 98MHz)
Stereo separation :	More than 25dB (at 1kHz)

### <MW SECTION>

HE, EEZ, EZ Models

Sensitivity :	48~62dB (at 603kHz)
(S/N 20dB)	53±6dB (at 999, 1404kHz)
S/N ratio :	More than 36dB (at 1000kHz)
Distortion :	Less than 1.5% (at 999kHz)
Intermediate frequency :	450kHz
Auto stop level :	50±10dB (at 999kHz)

HR, LH, U Models

Sensitivity :	48~62dB (at 600kHz)
(S/N 20dB)	53±6dB (at 1000, 1400kHz)
S/N ratio :	More than 36dB (at 1000kHz)
Distortion :	Less than 1.5% (at 1000kHz)
Intermediate frequency :	450kHz
Auto stop level :	50±10dB (at 1000kHz)

### <SW1 SECTION> (HE ONLY)

Sensitivity :	29~37dB (at 3.2MHz)
(S/N 20dB)	26~34dB (at 5.0MHz)
	24~32dB (at 7.3MHz)
S/N ratio :	More than 40dB (at 5.0MHz)
Distortion :	Less than 1.5% (at 5.0MHz)

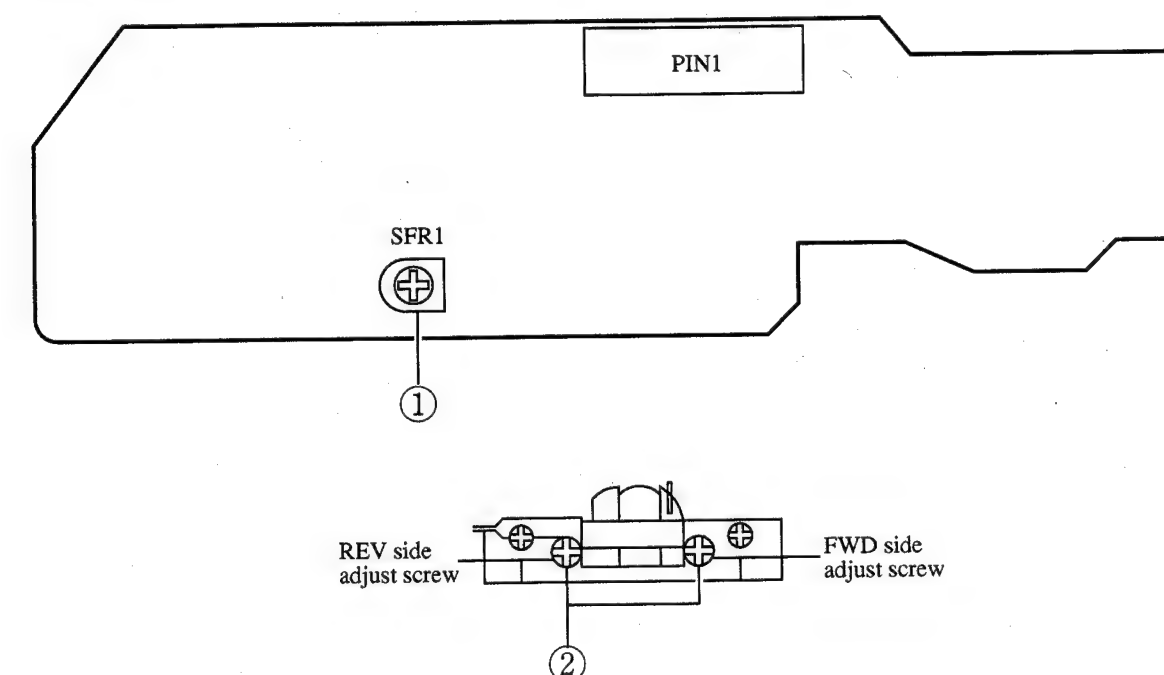
### <SW2 SECTION> (HE ONLY)

Sensitivity :	45±5dB (at 9.5MHz)
(S/N 20dB)	40±5dB (at 15MHz)
	31±5dB (at 21.85MHz)
S/N ratio :	More than 36dB (at 15MHz)
Distortion :	Less than 1.5% (at 15MHz)

### <LW SECTION> (EEZ, EZ ONLY)

Sensitivity :	66±5dB (at 144kHz)
(S/N 20dB)	63±5dB (at 198kHz)
	62±5dB (at 290kHz)
S/N ratio :	More than 32dB (at 198kHz)
Distortion :	Less than 1.5% (at 198kHz)

## F TAPE C. B



## PRACTICAL SERVICE FIGURE

### 1. Tape speed Check

Settings: • Test tape: TTA-100 (TTA-111S)

• Test point: SP OUT (MAIN C. B J501)

• Adjustment location: SFR1

Method: Play back the test tape and check for 3000±40Hz.

### 2. Head Azimuth Adjustment

Settings: • Test tape: TTA-310 (TTA-317E)

• Test point: SP OUT (MAIN C. B J501)

• Adjustment location: Head azimuth adjustment screw

Method: Play back the 10kHz signal of the test tape and adjust screw so that the output becomes maximum. Next, perform on each FWD PLAY mode and REV PLAY mode.

### 3. PB Frequency Response Check

Settings: • Test tape: TTA-310 (TTA-317E)

• Test point: SP OUT (MAIN C. B J501)

Method: Play back 63 Hz, 315 Hz and 10 kHz on the test tape and check that 63 Hz is -10 to -4 dB in comparison with 315 Hz and 10 kHz is -5 to +2 dB in comparison with 315 Hz.

### 4. REC/PB frequency Response Check

Settings: • Test tape: TTA-602 (TTA-119K)

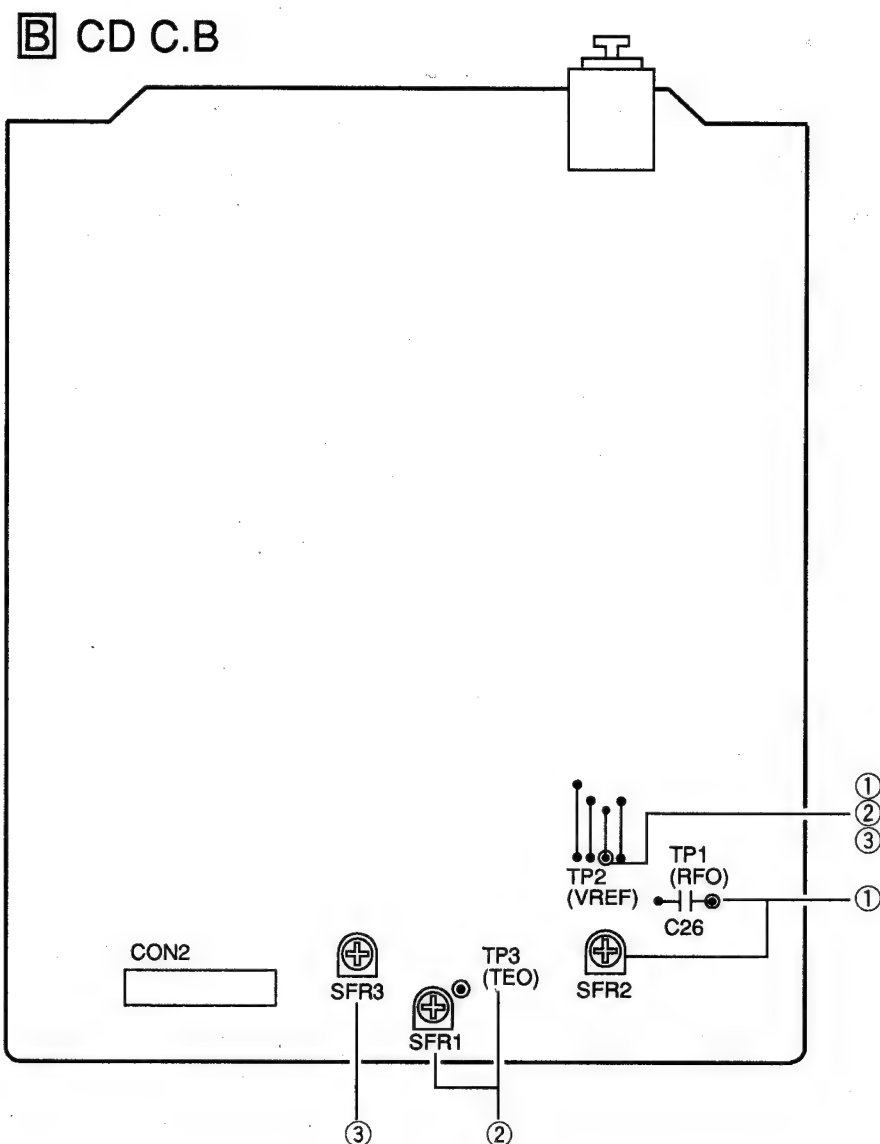
• Test point: SP OUT (MAIN C. B J501)

Method: Input a -22.2 dB signal to the AUX terminal. Record 100 Hz and 10 kHz on the test tape and play back them. Check that the difference between the record level and playback level is -9 to -3 dB at 100 Hz and -6 to +2 dB at 10 kHz.

### <TAPE RECORDER SECTION>

Distortion:	Less than 2.0% (PB, AC)
	Less than 3.0% (REC/PB, AC)
S/N ratio:	More than 40dB (PB, AC)
	More than 38dB (REC/PB, AC)
Noise:	Less than 100mV
	(PB, AC, MAX)
	Less than 130mV
	(REC/PB, AC, MAX)
Erasing ratio:	More than 60dB
Tape speed:	3000Hz±40Hz
Wow&flutter:	Less than 0.35% (JIS, RMS)
Take up torque:	30~55g-cm (FWD/REVERSE)
FF torque:	75~180g-cm
REW torque:	75~180g-cm
Back tension:	2~7g-cm
Test tape:	TTA-602 (TTA-119K)
	TTA-610 (TTA-119H)
	TTA-310
	(TTA-317E)
	TTA-100 (TTA-111S)

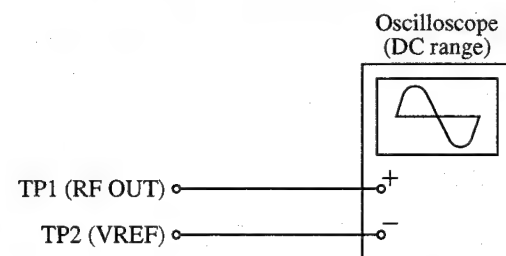




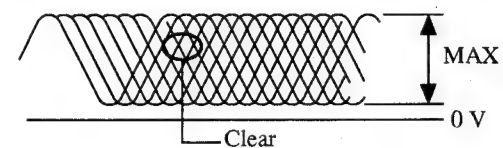
Note: Connect a probe (10: 1) of the oscilloscope or the frequency counter to a test point.

### ① Focus Bias Adjustment

Make the focus bias adjustment when replacing and repairing the optical block.

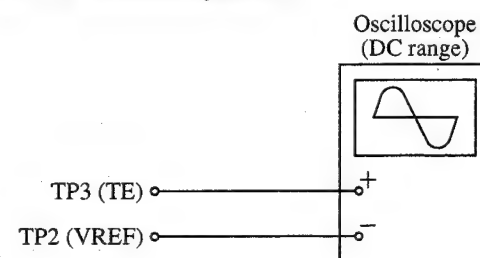


1. Connect an oscilloscope to test points TP1 (RF OUT) and TP2 (VREF).
2. Turn on the power switch.
3. Insert test disc TCD-782 (YEDS-18) and play back the second composition.
4. Adjust SFR2 so that the level of RF wave to be maximum and clear.



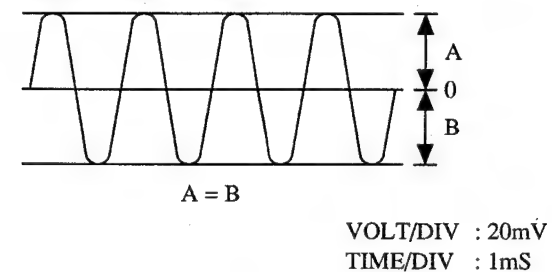
VOLT/DIV : 50mV  
TIME/DIV : 0.5  $\mu$  S

### ② RADIAL Balance Adjustment



1. Connect an oscilloscope to test points TP3 (TE) and TP2 (VREF).
2. Turn on the power switch.

3. Insert test disc TCD-782 (YEDS-18) and press the PLAY (▶) button.
4. Connected the intermediate point of SFR3 to TP2 (VREF).
5. Adjust SFR1 so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.



### ③ RADIAL Gain Adjustment

A servo analyzer is necessary in order to perform this adjustment exactly. However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when 2-axis device operates. However, as these gains are reciprocated, the adjustment is performed so that both gains are satisfied.

- When gain is raised, the noise increases when the 2-axis device operates.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.

When the gain adjustment is not satisfied, the symptoms below appear.

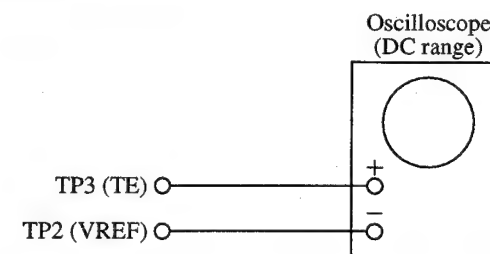
Symptoms	Gain	(Focus)	Tracking
● The time until music starts becomes longer for STOP → PLAY or automatic selection (◀▶ buttons pressed.) (Normally takes about 2 seconds.)	low	low	low or high
● Music does not start and disc continues to rotate for STOP → PLAY or automatic selection (◀▶ buttons pressed.)	—	—	low
● Disc stops to rotate shortly after STOP → PLAY.	low or high	—	—
● Sound is interrupted during PLAY. Or time counter display stops.	—	—	low
● More noises during the 2-axis device operation.	high	high	high

The following is simple adjustment method.

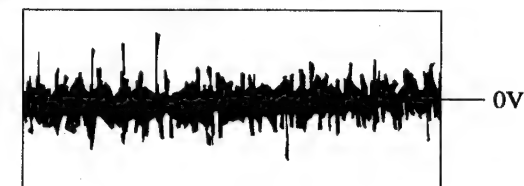
### — Simple adjustment —

Note: Since the adjustment cannot be performed exactly, remember the positions of the controls before the adjustment and compare the adjusted position and the original position. If the difference is a little, return the control to the original position.

Procedure:

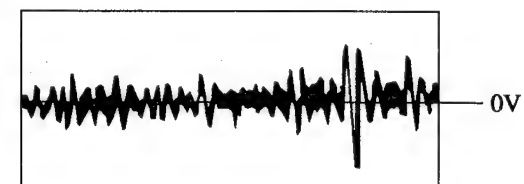


1. Keep the set horizontal. (If the set is not kept horizontally, this adjustment cannot be performed due to the gravity against the 2-axis device.)
2. Insert test disc TCD-782 (YEDS-18) and play back the second composition.
3. Connect an oscilloscope to TP3 (TE) of the main board.
4. Adjust SFR3 so that the waveform appears as shown in the figure below. (tracking gain adjustment)

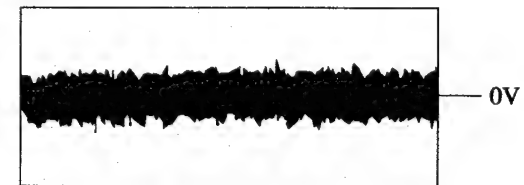


### ● Incorrect example

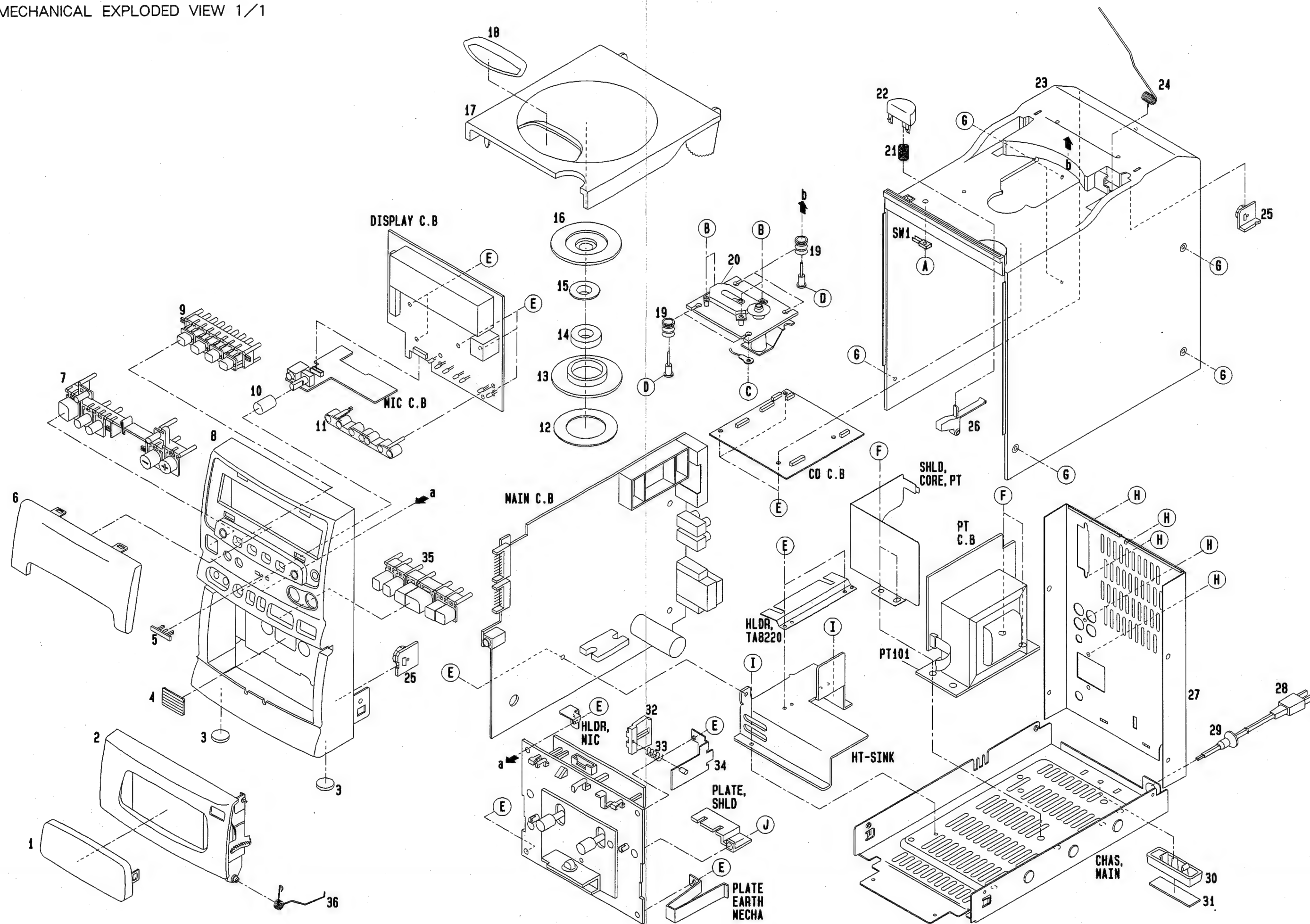
Low tracking gain  
(The fundamental wave appears as compared with the waveform adjusted.)



High tracking gain  
(The frequency of the fundamental wave is higher than that in low gain.)



VOLT/DIV : 50 mV  
TIME/DIV : 1 mS

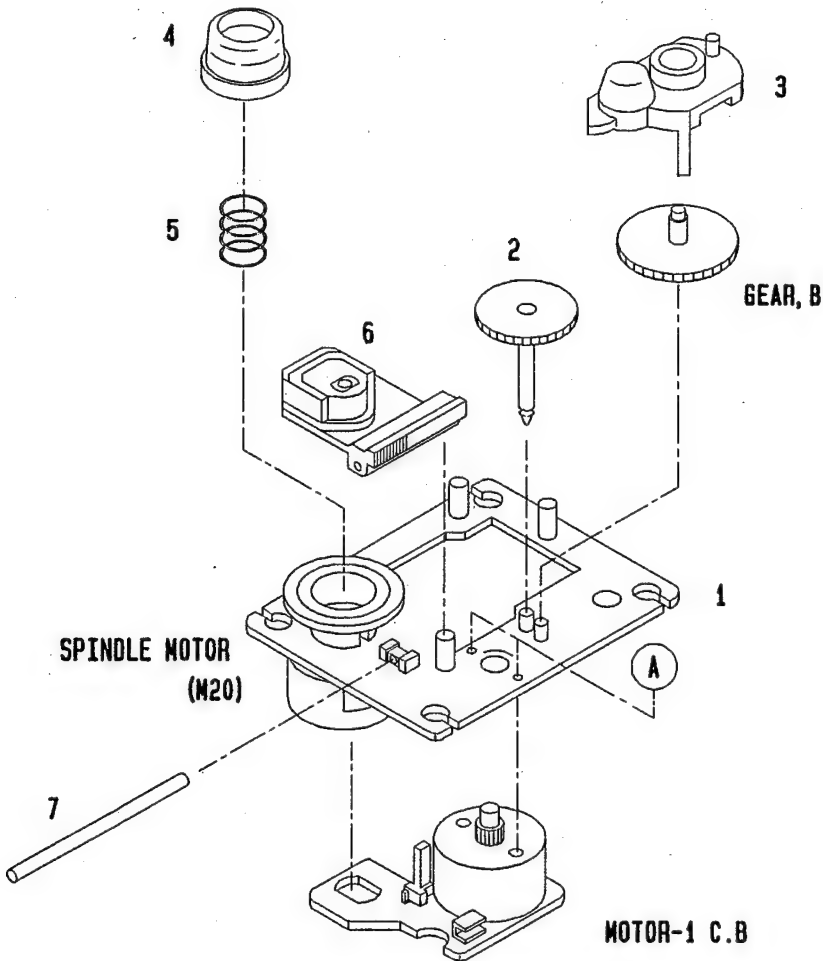


MECHANICAL PARTS LIST 1/1

DESCRIPTIONで判断できない物は“REFERENCE NAME LIST”を参照してください。  
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

REF. NO	PART NO.	カンリ NO.	DESCRIPTION	REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	84-CE5-004-019		WINDOW, CASS	23	84-CE5-050-019		CHAS, CD[L] (EEZ, EZ)
2	84-CE5-002-019		BOX, CASS[B]	23	84-CE5-062-119		CHAS, CD[ST] (HR)
2	84-CE5-043-019		BOX, CASS[G]	24	84-CE5-214-019		SPR-T, CD
2	84-CE5-049-019		BOX, CASS[L]	25	87-063-164-019		OIL-DMPR 80
2	84-CE5-072-019		BOX, CASS[ST]	26	84-CE5-202-019		LEVER, EJECT CD
3	84-CE5-215-019		CUSH, FOOT A	27	84-CE5-027-019		PANEL, REAR[B] (AP1Z)
4	81-532-080-019		LBL, CASS-COMPT	27	84-CE5-018-019		PANEL, REAR[B] (EEZ)
5	82-NE6-067-019		BADGE AIWA 30N	27	84-CE5-020-019		PANEL, REAR[B] (EZ) [G] (EEZ, EZ)
6	84-CE5-008-019		WINDOW, DISP				[L] (EEZ, EZ)
7	84-CE5-007-019		BTN, POWER	27	84-CE5-015-019		PANEL, REAR[B] (HE)
8	84-CE5-001-019		CAB, FR[B] (LH, EEZ, EZ)	27	84-CE5-016-019		PANEL, REAR[B, ST] (HR)
8	84-CE5-030-019		CAB, FR HEJ[B] (HE, HR)	27	84-CE5-014-019		PANEL, REAR[B] (LH)
8	84-CE5-023-019		CAB, FR U[B] (U)	27	84-CE5-021-019		PANEL, REAR[B] (U)
8	84-CE5-028-019		CAB, FR AP1Z[B] (AP1Z)	28	87-050-034-019		AC CORD ASSY, E (EXCEPT [B] LH, U)
8	84-CE5-042-019		CAB, FR EEZGN[G] (EEZ, EZ)	28	87-050-075-019		AC CORD ASSY, H[B] (LH)
8	84-CE5-048-019		CAB, FR EEZLN[L] (EEZ, EZ)	28	87-050-053-019		AC CORD ASSY, U-2[B] (U)
8	84-CE5-071-019		CAB, FR[ST] (HR)	29	87-085-184-010		BUSHING, AC CORD[B] (LH)
9	84-CE5-025-119		BTN, FUNC ASSY	29	87-085-185-010		BUSHING, AC CORD (EXCEPT [B] LH, U)
10	84-CE5-013-019		KNOB, MIC	29	87-085-189-010		BUSHING, CORD U[B] (U)
11	84-CE5-204-019		GUIDE, CONT-LED	30	84-CE5-219-019		HLDR, FOOT B
12	89-CD6-220-119		CUSHION-CHUCK	31	84-CE5-220-019		CUSH, FOOT B
13	89-CD6-206-019		CHUCK, CD B	32	82-NF5-229-019		PLATE, LOCK
14	87-036-216-019		MAGNET	33	82-NF5-228-019		SPR-C, LOCK
15	81-590-224-019		PLATE MAGNET	34	82-NF5-227-019		HLDR, LOCK 2N
16	81-CD2-225-019		CHUCK, CD A	35	84-CE5-010-019		BTN, CONT
17	84-CE5-006-019		BOX, CD[B]	36	84-CE5-213-019		SPR-T, CASS
17	84-CE5-045-019		BOX, CD EEZGN[G]	A	87-751-035-419		VT2+2-6W/O SLOT
17	84-CE5-051-019		BOX, CD EEZLN[L]	B	87-651-034-419		VT1+2-5
17	84-CE5-063-019		BOX, CD[ST]	C	87-067-520-019		VFTT +2-6 (S TIGHT)
18	84-CE5-003-019		WINDOW, CD	D	81-CD5-204-019		SCREW CD
19	80-CD3-214-019		CUSH CD A	E	87-067-703-019		BVT2+3-10 (W/O SLOT)
20	81-CD2-028-119		PANEL, CD	F	87-067-585-019		BVTT +4-6
21	84-CE5-212-019		SPR-C, CD	G	87-593-095-419		QIT +3-8 BLK
22	84-CE5-012-019		BTN, EJECT CD[B]	H	87-067-761-019		BVT2+3-10 BLK
22	84-CE5-046-019		BTN, EJECT CD[G]	I	87-067-584-019		BVT2+3-6 W/O SLOT
22	84-CE5-052-019		BTN, EJECT CD[L]	J	87-571-032-419		VIT+2-3
22	84-CE5-064-019		BTN, EJECT CD[ST]				
23	84-CE5-005-019		CHAS, CD[B] (LH, HE, HR, EEZ, EZ, AP1Z)				
23	84-CE5-024-019		CHAS, CD[B] (U)				
23	84-CE5-044-019		CHAS, CD[G] (EEZ, EZ)				

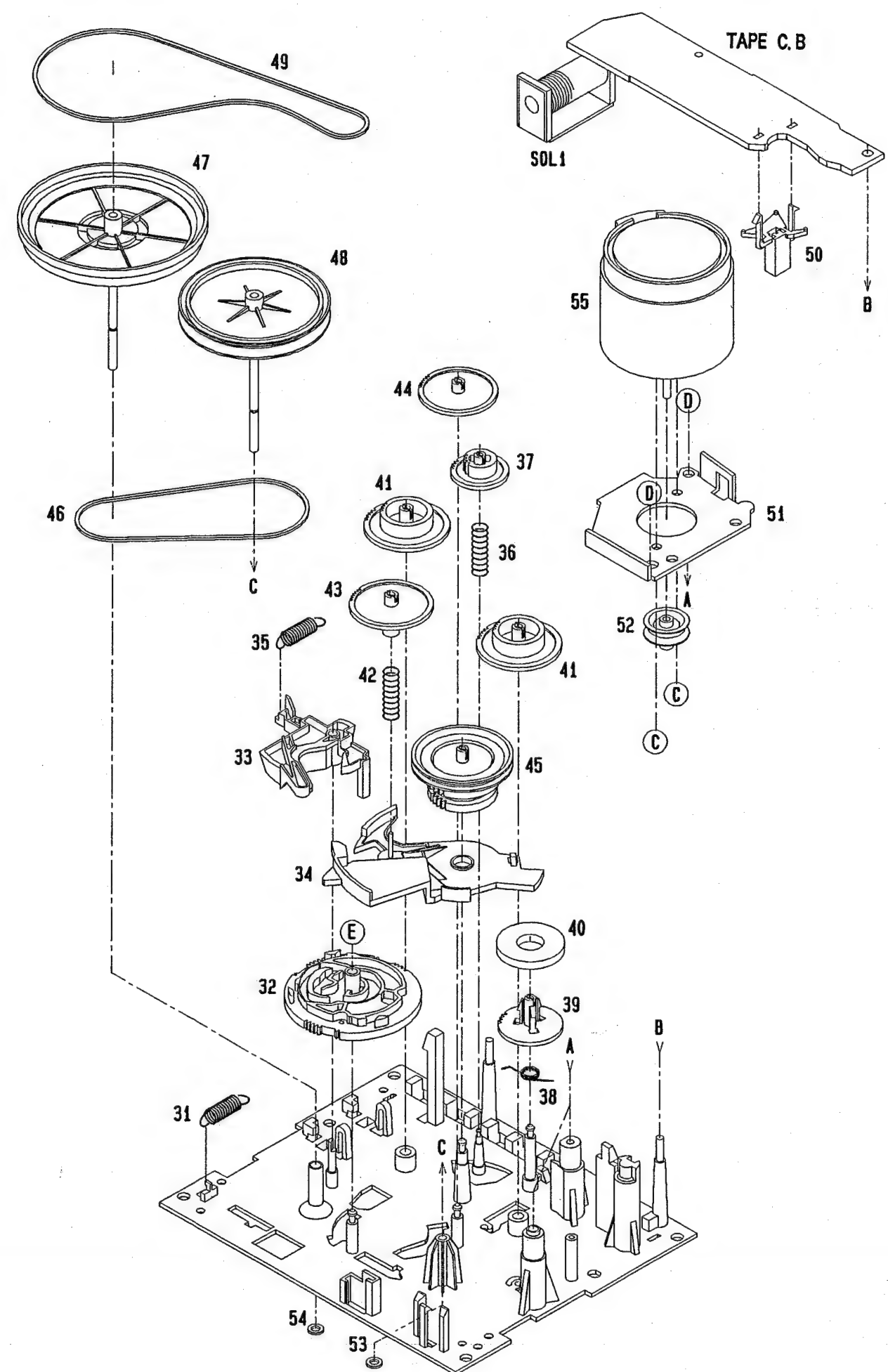
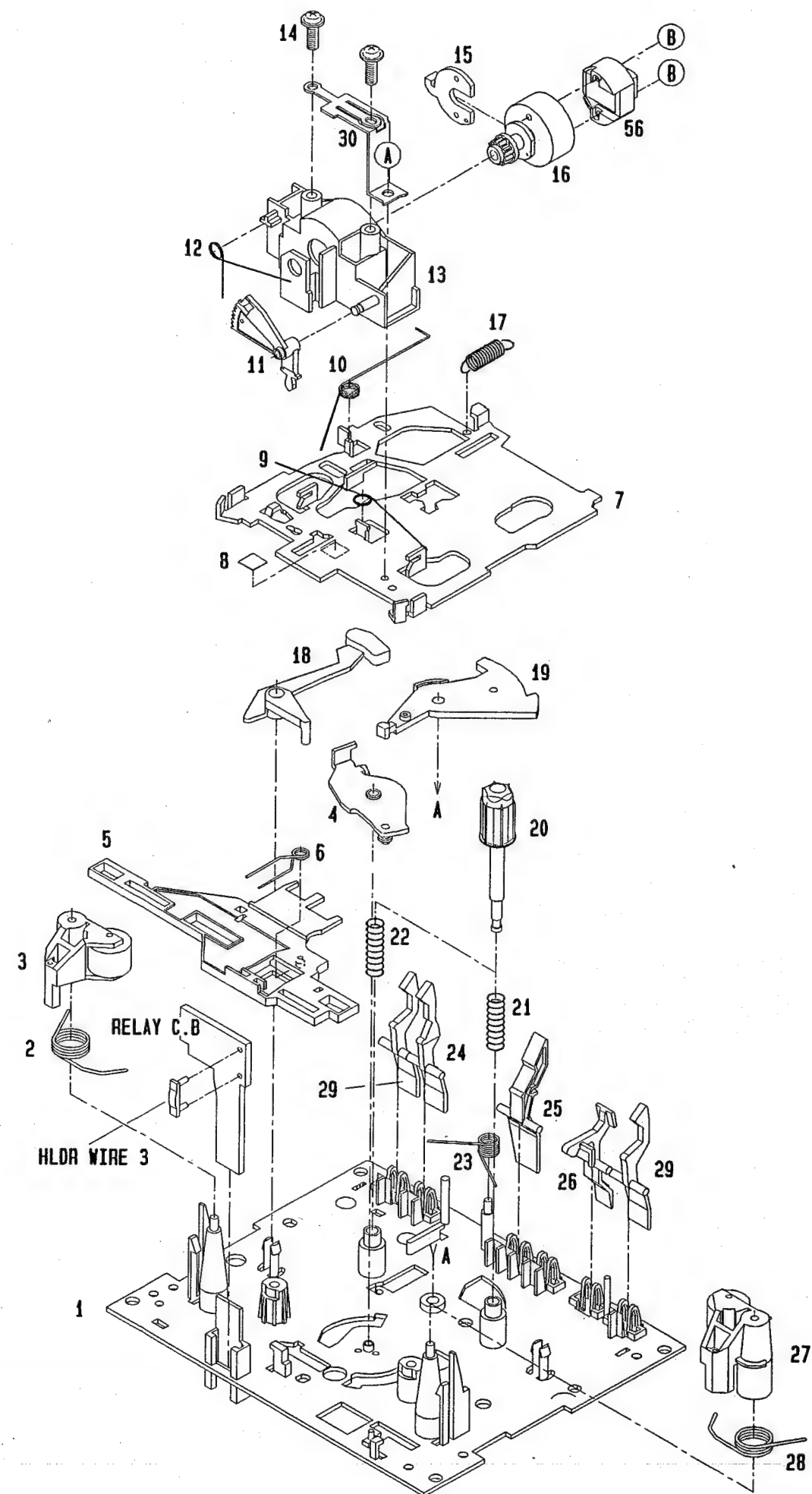
CD MECHANISM EXPLODED VIEW 1/1



CD MECHANISM PARTS LIST 1/1

REF. NO	PART NO.	カンリ NO.	DESCRIPTION	REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	9X-262-513-310		T.T CHASS ASSY W/MOTOR	6	98-848-137-210		OPTICAL PICK UP KSS-210B
2	92-625-188-020		GEAR (A)	7	94-917-565-010		SHAFT SLED
3	92-625-544-010		COVER	A	87-261-032-210		V+2-3
4	92-625-187-010		RING CENTER				
5	92-625-191-010		SPRING COMPRESSION				

TAPE MECHANISM EXPLODED VIEW 1/1

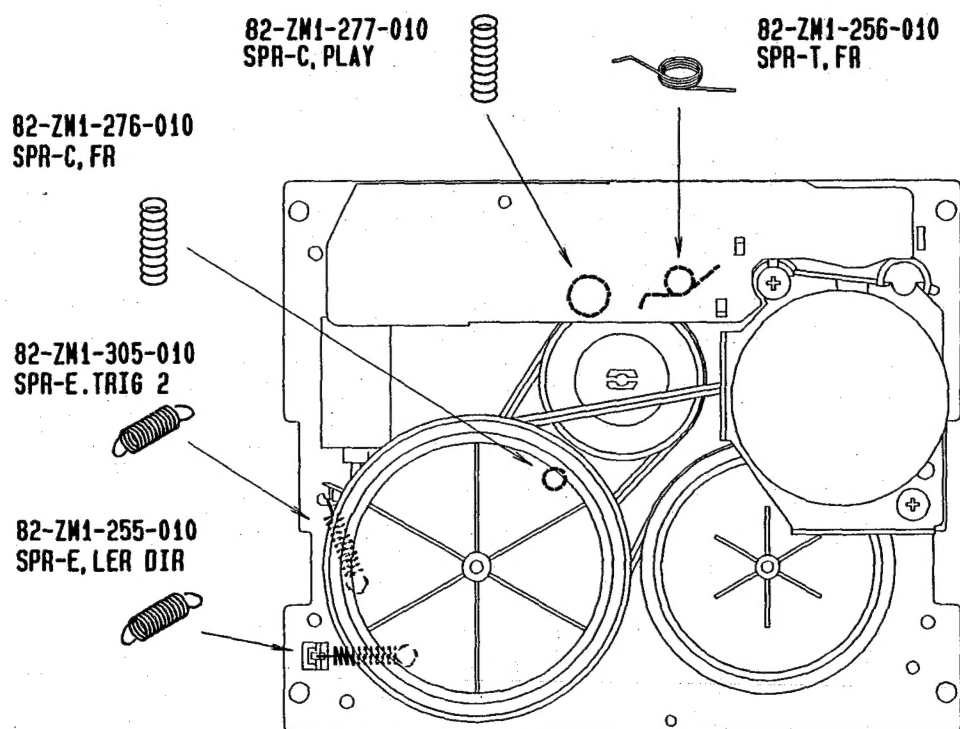
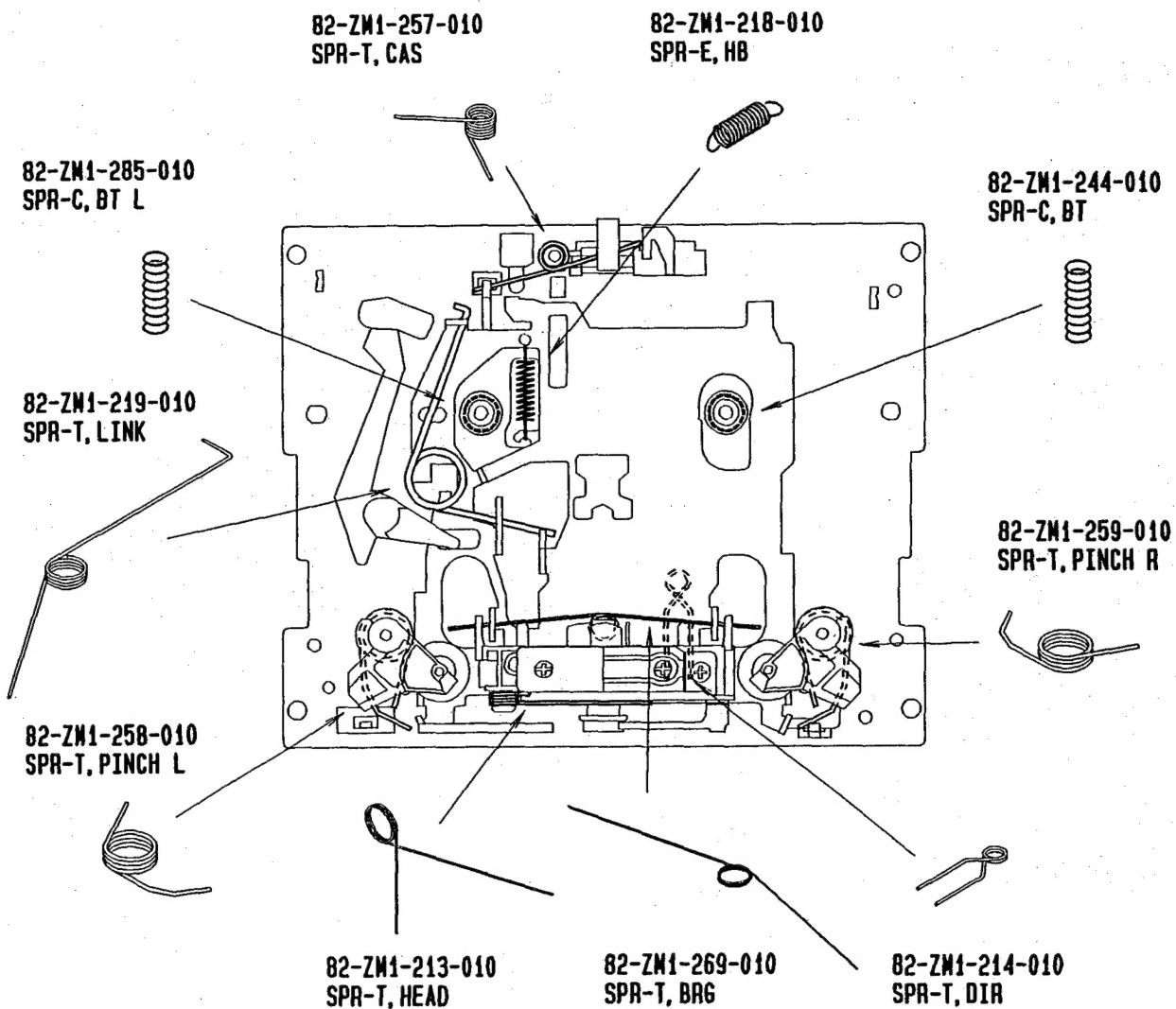




# TAPE MECHANISM PARTS LIST 1/1

REF. NO	PART NO.	カリ NO.	DESCRIPTION	REF. NO	PART NO.	カリ NO.	DESCRIPTION
1	82-ZM1-299-010		CHAS ASSY, R	36	82-ZM1-277-010		SPR-C, PLAY
2	82-ZM1-258-010		SPR-T, PINCH L	37	82-ZM1-223-010		GEAR, PLAY
3	82-ZM1-248-110		LVR ASSY, PINCH L	38	82-ZM1-256-110		SPR-T, FR
4	82-ZM1-295-210		PLATE ASSY, LINK	39	82-ZM1-220-110		GEAR, IDLER
5	82-ZM1-266-010		LVR, DIR	40	80-ZM6-217-010		RING MAGNET 2
6	82-ZM1-214-010		SPR-T, DIR	41	82-ZM1-216-210		GEAR, REEL
7	82-ZM1-206-210		CHAS, HEAD	42	82-ZM1-276-010		SPR-C, FR
8	87-078-014-010		SH, 5-5-0.05	43	82-ZM1-225-010		GEAR, FR
9	82-ZM1-269-010		SPR-T, BRG	44	82-ZM1-226-010		GEAR, REW
10	82-ZM1-219-010		SPR-T, LINK	45	82-ZM1-228-210		SLIP DISK ASSY
11	82-ZM1-210-010		GEAR, H T	46	82-ZM1-261-110		BELT, FR
12	82-ZM1-213-010		SPR-T, HEAD	47	82-ZM1-237-210		FLY-WHL ASSY, R
13	82-ZM1-207-010		GUIDE, TAPE	48	82-ZM1-234-110		FLY-WHL ASSY, L
14	82-ZM1-283-310		S-SCREW, AZIMUTH	49	82-ZM1-260-010		BELT, MAIN
15	82-ZM1-209-010		PLATE, HEAD	50	82-ZM1-245-210		HLDR, IC
16	82-ZM1-208-010		HLDR, HEAD	51	82-ZM1-246-010		HLDR, MOTOR
17	82-ZM1-218-010		SPR-E, HB	52	82-ZM1-247-010		PULLEY, MOTOR
18	82-ZM1-263-110		LVR, EJECT	53	82-ZM1-288-010		SH, 1.63-3.2-0.5 SLT
19	82-ZM1-222-010		LVR, PLAY	54	80-ZM6-243-010		SH, 1.75-3.6-0.5 SLT
20	82-ZM1-217-110		REEL TABLE	55	87-045-348-010		MOT, SHW 2L 70(M1)
21	82-ZM1-244-110		SPR-C, BT	56	87-046-399-010		HEAD, RPH YK56R-BS409(RPH)
22	82-ZM1-285-110		SPR-C, BT L	A	87-585-036-410		UIT+2-8
23	82-ZM1-257-010		SPR-T, CAS	B	80-ZM6-207-010		V+1.6-7
24	82-ZM1-241-110		LVR, MC	C	87-251-070-410		U+2.6-3
25	82-ZM1-242-010		LVR, CAS	D	87-741-073-410		UT2+2.6-6 GLD
26	82-ZM1-243-010		LVR, STOP	E	87-067-932-010		PW, 2.15-6.8-0.5 SLT
27	82-ZM1-253-110		LVR ASSY, PINCH R				
28	82-ZM1-259-010		SPR-T, PINCH R				
29	82-ZM1-240-110		LVR, REC				
30	82-ZM1-298-010		SPR-P, EARTH				
31	82-ZM1-255-110		SPR-E, LVR DIR				
32	82-ZM1-221-110		GEAR, CAM				
33	82-ZM1-227-110		LVR, TRIG				
34	82-ZM1-224-110		LVR, FR				
35	82-ZM1-305-010		SPR-E, TRIG 2				

# SPRING APPLICATION POSITION



## ■ACCESSORIES/PACKAGE LIST

DESCRIPTIONで判断できない物は“REFERENCE NAME LIST”を参照してください。  
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

REF NO.	PART NO.	カンリ NO.	DESCRIPTION
1	84-CL5-902-219	IB, E (EG1) <EEZ, EZ>	
1	84-CL5-901-019	IB, E (ESC) <LH, HE, HR>	
1	84-CL5-905-219	IB, U (ESF) <EEZ, EZ, U>	
1	84-CL5-906-019	IB, AP1 <AP1Z>	
2	87-006-240-019	AM-LOOP ANT CON(K0) <HE>	
2	87-006-268-019	AM-LOOP ANT NC (UN) <EXCEPT HE>	
3	87-043-115-01B	ANT, FEEDER FM <LH, HE, HR, U>	
3	87-043-106-019	FM, WIRE ANT (Z) <EEZ, EZ, AP1Z>	
4	87-043-095-019	ANTENNA WIRE <HE>	
5	87-009-724-019	PLUG, ADPTR IR39 <LH>	
5	87-009-725-019	PLUG, ADPTR IR40 <HE, HR>	
6	84-CL4-950-019	RC, RC-L60E	

## ■SPEAKER LIST (SX-SL50)

DESCRIPTIONで判断できない物は“REFERENCE NAME LIST”を参照してください。  
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

REF NO.	PART NO.	カンリ NO.	DESCRIPTION
1	84-CP6-001-019	PANEL FR, R[B] <EXCEPT AP1Z>	
1	84-CP6-019-019	PANEL FR, R[G] <EEZ, EZ>	
1	84-CP6-021-019	PANEL FR, R[L] <EEZ, EZ>	
1	84-CP6-023-019	PANEL FR, R[B] <AP1Z>	
1	84-CP6-027-019	PANEL FR, R[ST] <HR>	
2	84-CP6-002-019	PANEL FR, L[B] <EXCEPT AP1Z>	
2	84-CP6-020-019	PANEL FR, R[G] <EEZ, EZ>	
2	84-CP6-022-019	PANEL FR, R[L] <EEZ, EZ>	
2	84-CP6-024-019	PANEL FR, R[B] <AP1Z>	
2	84-CP6-028-019	PANEL FR, R[ST] <HR>	
3	84-CP6-008-019	GRILL FRAME ASSY R	
4	84-CP6-009-019	GRILL FRAME ASSY L	
5	84-CP6-602-019	SPEAKER	
6	84-CP6-610-019	SPEAKER CORD	

# REFERENCE NAME LIST

## ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, SERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER
サージサプレッサ	SERGESUPPRESSOR
セラコン	CAP, CERA

## MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL
ジグアーム	ARM, SHAFT
ジグガイド	GUIDE, SHAFT
ストラップ	STRAP
トクナベ	S-SCRW
ヒンジ	HINGE
ヒンジビス	S-SCRW
ビスセレート	SCRW, SERRART

サービス技術ニュース	
番号	連絡内容
G - -	
G - -	
G - -	

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